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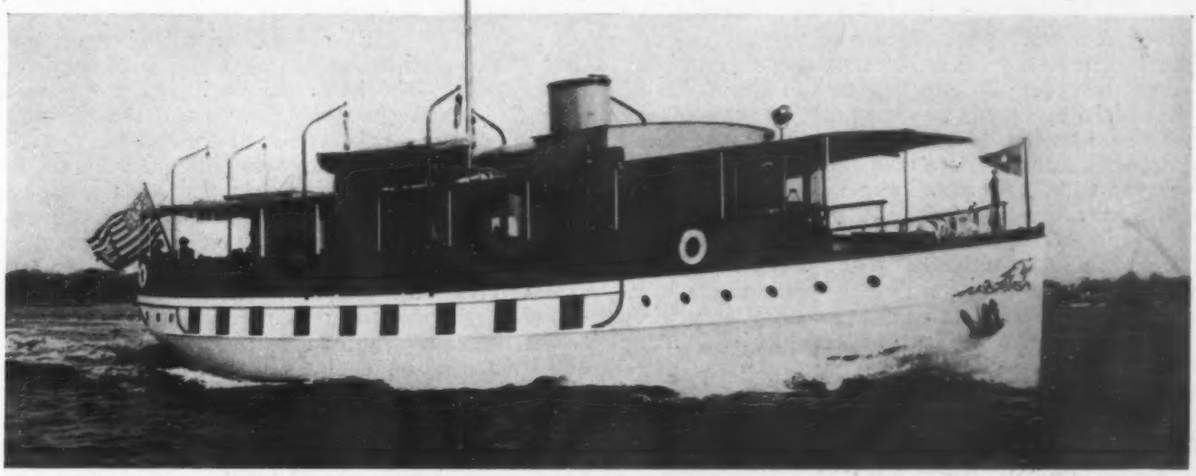
Small Diesels for Yachtsmen

Thoughts to Guide the Boat Owner in Settling His Engine Problem

By R. W. CROWLY



The Diesel engine is fast finding its place in moderate-sized cruisers, as in this power houseboat *Nicoya*, 94 feet long and designed and built by the Mathis Yacht Building Co. She is powered with two 175 h.p. Winton Diesels.

A MAN'S best guide in the selection for his particular needs of the newer types of Diesel engines of less than 100 h.p. now offered in the market is judicious discrimination. Diesel engines, like all other machinery, must be regarded basically as a medium of service, and their adoption should be determined on that basis. The service that this type of engine can render is generally accepted today as far superior, under favored conditions, to that of all other types. On the other hand, its service, like that of any other machinery, may be disappointingly restricted by the lack of favoring conditions. No machinery can ever do better than circumstances permit.

In the range below 100 h.p. there are nearly a dozen makes of Diesel motors, operating at 600 r.p.m. and faster. Not all of them are of the original Diesel type, but they come within the broad classification admitted nowadays under the Diesel heading. Their weight, calculated for engine alone, without accessories, ranges from 80 lb. per horsepower down to about 40 lb. per horsepower and even less. In this group are several models that have been on the market a few years; others, particularly those turning up to 700 r.p.m. and close to or less than 40 lb. per horsepower, have been brought out during the last year. These later models may be pictured as comparable in weight and size to the average heavy duty gasoline engines.

The really light weight, high speed Diesel engine exists only in a couple of types developed in higher powers in England and Germany, respectively, by airship engine builders, the speeds running up to 1,400 to 1,500 r.p.m. and the weight down to 17 lb. per h.p., in the German type, and as low as 7 lb. or 8 lb. per h.p. in the British model. Although a few of the German engines have been installed in high speed power yachts abroad and both the British and German types have demonstrated their durability in other lines of service, these ultra-light models are at present only of nominal interest in the marine field.

Real interest is centering in the application of the smaller Diesel engines to the purposes for which the heavy duty gas engines have been used. The virtues of Diesel fuel economy and Diesel fuel safety attract attention. So marked is the fuel economy that this characteristic has advanced the Diesel engine to the position of the premier class of machinery in new shipbuilding construction throughout the world and has elevated it to the leadership of machinery for large power yachts.

This economy of fuel presents not only the advantage of reduced cost, but the further alternate benefits of increased operating range or smaller fuel tank capacity — whichever may be more desired — either of which may be more highly esteemed for a boat than a lower fuel bill. The larger Diesel-engined yachts of the last few years have been given an endurance of 7,000 to 11,000 miles, rendering them free from bunkering annoyance for long periods and permitting a freedom of cruising far beyond ports where fuel can be obtained. By contrast, one recalls that it is not many years since bunkering a power yacht for a Transatlantic passage was a great anxiety.

This advantage, on a reduced scale, is now open to the man who requires only 50 or 75 h.p., perhaps as auxiliary power in a small schooner or as full power in a motor cruiser. There is no mystery to baffle one in the consideration and weighing of the benefit. For easy approximation, one may reckon that a gallon of fuel always goes more than half as far again with a Diesel engine as with a gasoline motor, and if one takes into account the rarity of well

adjusted gas engines in service, on the one hand, and on the other, the inherent fixity of correct fuel adjustment in Diesel motors, the ratio of fuel consumption might well be taken as 2:1 instead of 3:2. Interpreted in terms of distance, this means that a Diesel engine will drive a boat between 150 and 200 miles on the same gallonage that a gas engine will use for 100 miles. The objection to narrowing the ratio to a hard and fast figure is that the performance of gasoline motors varies so widely in an owner's service, that the good and the bad must both be covered in order to avoid any misleading generalities.

Savings in cost necessarily vary also. There is a considerable spread in the price of gasoline in different sections of the country and an even wider spread in the price of the fuel oil that Diesel engines burn. Gasoline is universally distributed; the distribution of fuel oil is much more limited, and when ordered in relatively small quantities for delivery at special points it may cost nearly twice as much as the quoted bunker price at a port relatively nearby. In the North Atlantic range the Diesel engine savings in fuel will vary between 60 and 80 cents on the dollar. This proportion is big, but the importance of the saving depends upon the season's total fuel bill. If one has averaged $1,000 for gasoline per season, the Diesel engine will save between $600 and $800; if the gas bill runs to no more than $100 per season the saving of the Diesel engine will be only $60 to $80. When a Diesel engine is not used for long continuous operation one must not look for big savings. It can save money only when opportunity is given. When it can operate 24 hours a day the Diesel engine is paramount.

Yet, in the estimation of some people, these benefits of reduced fuel cost and increased operating range are of minor consideration as compared to the advantage of safety derived from the use of a fuel that is not volatile, even under tropical temperatures, and which is indeed not very easily inflammable. Gasoline of the new vintages does not present the fire hazards of the vintages of ten years and more ago, but undeniably it is not safe in the sense that Diesel fuel is safe. A man who is really concerned about the fire hazard need look for no other benefit in the Diesel engine.

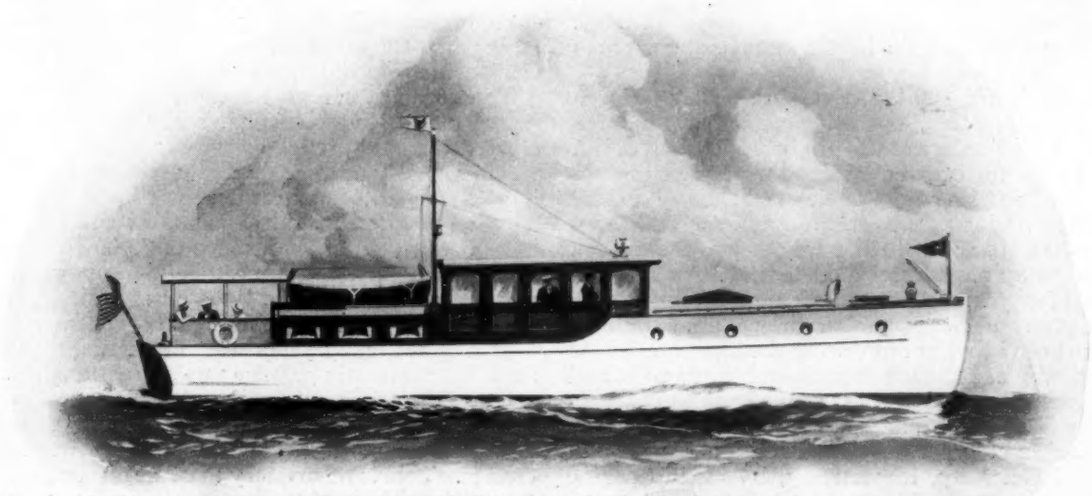
With the growing adoption of the automotive type of electric starter on the smaller Diesel engines, those who dislike the high pressure air tanks and fittings need no longer be troubled. Most of the smaller Diesel engines have dispensed with the blast air for injection, and now the starting air can be discarded also. The most advanced models have been designed very much on the lines of automotive practice, the airless injection of fuel in the Diesel types supplanting the carburetor and electric ignition of the gas motors. In that form they have become yachtsman's engines in the sense that heavy duty gasoline motors are yachtsman's engines — namely, that no engineer is needed to tend them. They can be started on a pedal, controlled by a "throttle lever," and give reverse through a gear, without any actual attention to the details of the machinery being required. Not all are like that; particularly as one mounts towards 100 h.p., the features of large Diesel engine practice, requiring the presence of an engineer, are encountered — air starting, air injection, air reversing, main and auxiliary compressors, air tanks, etc.

Unquestionably, the simplification of the engine and of its installation have extended the appeal of the small Diesel engine. Weight reduction, increased engine speed and diminished space requirements have played their part in rendering this type of motor available to a larger number of boat owners, but simplification has done more than the three other factors in striking the appeal. So long as the smaller powered Diesel engines retained those elements of their larger prototypes, requiring gauges to be watched and valves to be regulated, just so long were they removed from the scope of those boat owners who cannot conveniently provide accommodations for an engineer or whose use of their craft is so limited that the wages and subsistence of an engineer would constitute an undue charge.

Of course, one has a choice and therefore also the embarrassment of a choice. Fortunate is he whose every requirement can be met by the features of a single model. Most frequently one has to sacrifice the desire for some features in order to satisfy the desire for others, but the closer one holds to the fundamentals indicated by a fulsome consideration of the conditions of service the less tantalizing will be the ordeal of choice. The best guide, one may repeat, is judicious discrimination.

Engineering really should not be consulted in the matter. Now that the art has been developed, the technical problems of small engine design and construction are no longer serious. There was a time when engineering

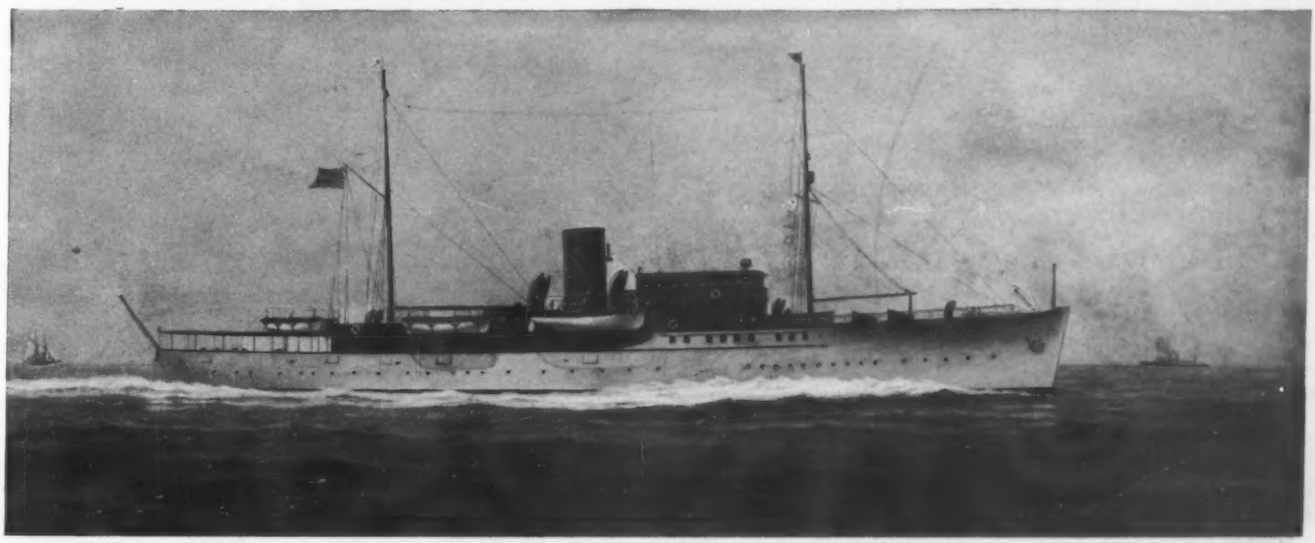
(*Continued on page 124*)



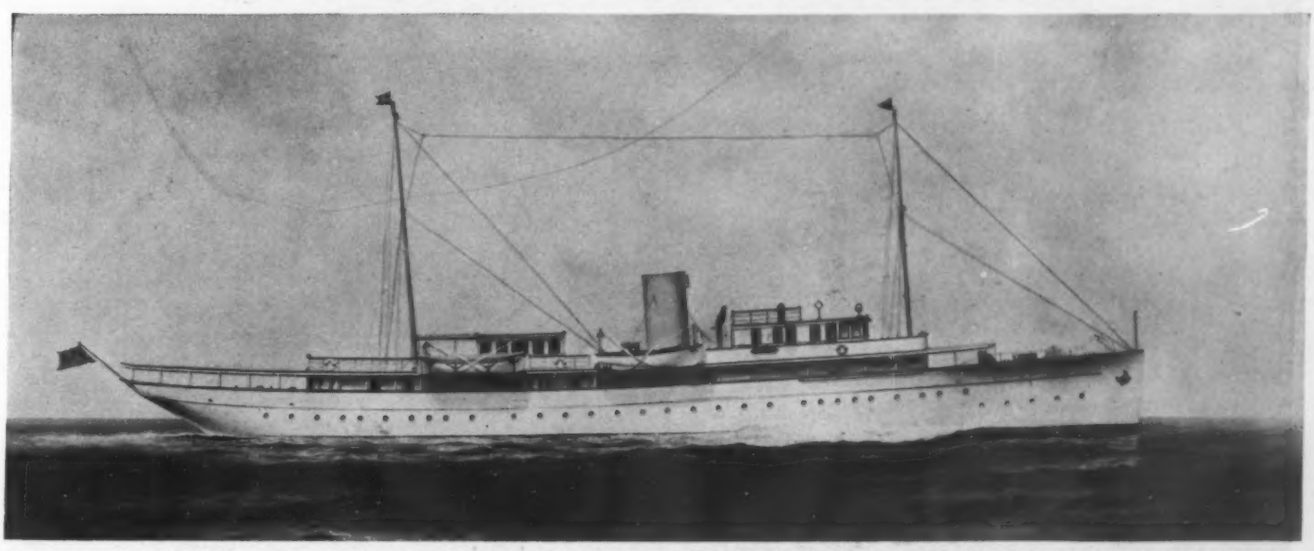
In small cruisers the new light weight Diesels are now being used successfully. This is a new Gordon-Olympic 50-footer, powered with two Cummins Diesels.

Some New Diesel-Powered Craft for 1928

Ranelpe, a moderate-sized cruiser 95 feet long, owned by Austin H. Perry, running her trials in which she made a speed of 13.3 m.p.h. Designed and built by the Luders Marine Construction Co., she is powered with two of the new high speed Winton Diesels.



Nourmahal, Commodore Vincent Astor's new flagship of the New York Yacht Club. She is 260 feet in length and was designed by Theodore Ferris and Cox & Stevens. Her speed will be about 16 knots with 3000 h.p. Busch-Sulzer Diesels.

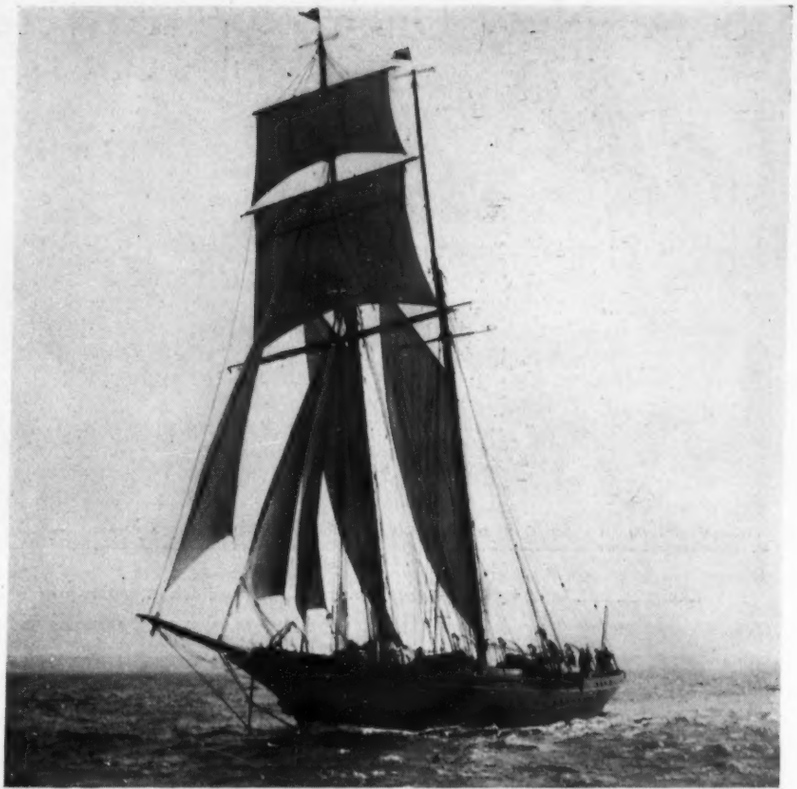


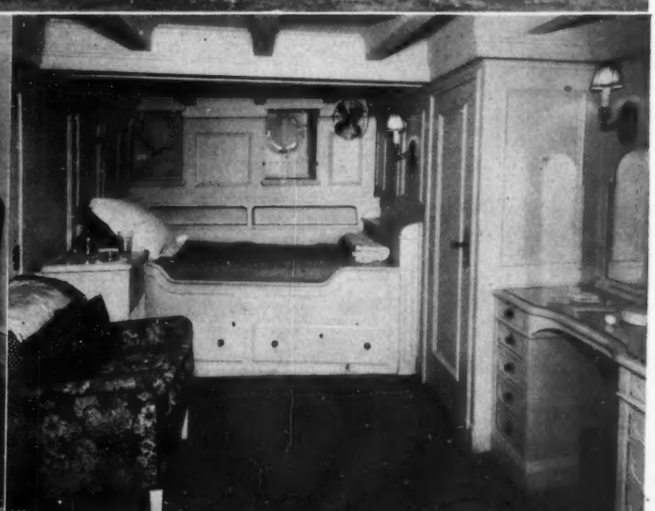
Vanda, a new large motor yacht owned by Ernest B. Dane, of Boston. Designed by H. J. Gielow, Inc., she is 240 feet long. Bath Iron Works are the builders and for power she has two 1500 h.p. Bessemer Diesels.

The Diesel Auxiliary
Cressida

In the field of large auxiliaries designed for ocean cruising and long voyages the Diesel engine has rapidly come into popularity, both by reason of the increased cruising radius made possible on limited tank capacity, and by its reliability. One of the latest yachts of this type to be equipped with Diesel power is the *Cressida*, owned by Hermann Oelrichs and designed by Cox & Stevens. With an over all length of 172 feet, *Cressida*, a topsail-rigged schooner, is one of the largest auxiliaries built in several years.

The appointments and layout are unusually complete and attractive, as the photographs of her interior reproduced here indicate. These show the dining saloon, one of the staterooms, the library and the spacious deck. She is powered with a 250 h.p. Diesel, which gives a cruising speed of 8 to 9 knots under power.





Baby Olds, a new type of outboard boat that proved the sensation of the Albany-New York race.

The Story of *Baby Olds*

By WENDELL BUCK

THE design of modern airplanes, and particularly flying boats, is the business of a group of four men who have been experimenting for over two years with a revolutionary type of fast outboard racing hull. The development work on the new type of racing craft started when Harold D. Kantner, assistant to the chief engineer of the Fairchild Airplane Manufacturing Corp., began turning over in his mind the possibilities and advantages of airplane principles applied to an already fast outboard hull. Mr. Kantner had been working for many years with aircraft of various types, and when he first turned his attention to outboard speed boats it was only natural that he should borrow certain features known to contribute to the speed and stability of airplanes.

The group of airplane designers headed by Mr. Kantner was naturally gratified when their long experimental work came to a successful climax on Sunday morning, April 22nd. The little twelve-and-a-half-foot boat, *Baby Olds*, unique in design and shaped like a Zeppelin, shot across the finish line at Dyckman Street to win the Albany-New York race in the record time of 4:27:30. The previous record for the course, considered by practically all followers of outboard racing as unbeatable, had been bettered by more than 16 minutes! The driver was running his first outboard race. The motor was a new one, taken out of its packing crate the day before.

Baby Olds is the second of two outboard boats built at the Fairchild plant to test the value of aeronautical principles in outboard speed boat design. *Dixie Boy*, the first of the two craft, is likewise a winning boat. She made her public appearance at Buffalo last year and won her race handily.

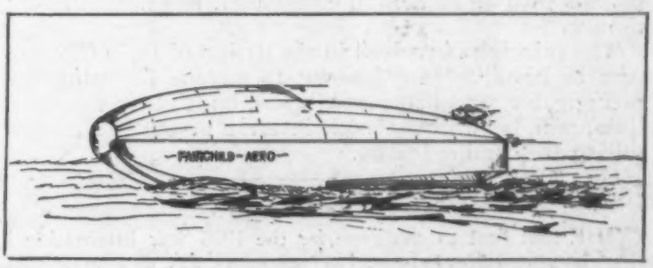
When *Baby Olds* was first seen in action at Albany prior to the running of the last day's race, her unique design aroused more than a little comment and discussion. She was not recognized, except by one or two seasoned race followers, as a development of Mr. Kantner's first design, *Dixie Boy*. In the excitement and hurried preparations for the final day of the Hudson River run, the critics lacked the time to analyze the interesting new features of her bottom construction, and her practically perfect streamlining above the water line.

The remarkable record established by *Baby Olds* is now a matter of racing history. Boat designers, outboard drivers and boating enthusiasts are still seeking an explanation of her speed and her stability as shown by her record run of 130 miles, a third of the distance through rough water. A careful examination of the boat out of the water shows a combination of features which stamp her as a design whose full speed possibilities are yet to be determined.

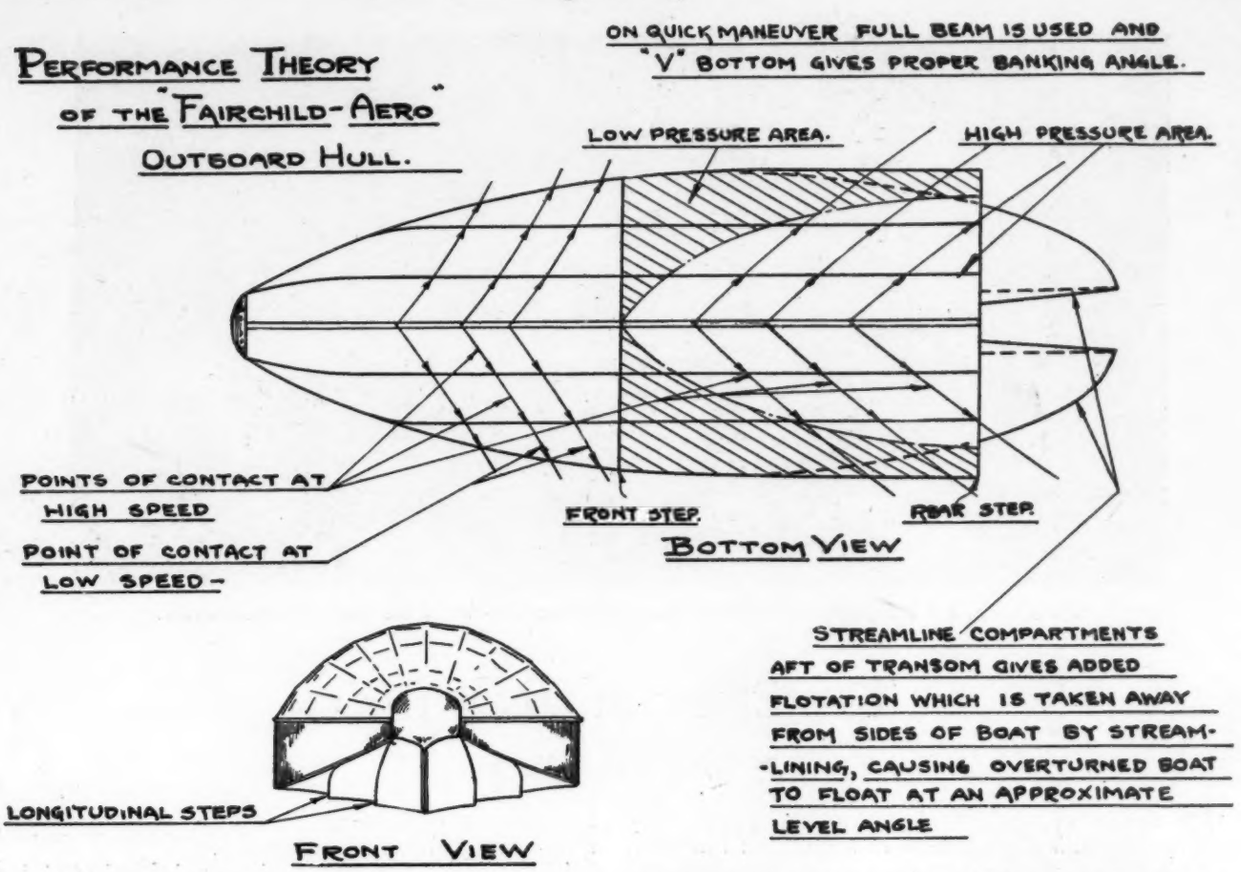
The whole idea of the design of the boat can be summed up briefly: reduce bottom friction, and air resistance above the water line, and increased speed is bound to be the result.

The bottom utilizes every practical way of getting rid of friction. A series of longitudinal steps is used to throw water quickly from the sides of the boat and to aid in the planing action. The beam is 51 inches, but in smooth water and with the boat planing, the actual wetted surface is only 21 inches. A cross step, as found in the usual step-hydroplane design, is also employed.

When *Baby Olds* is running with the motor wide open she brings to mind a torpedo shooting along the surface of the water. There is no plowing action, but instead the water is thrown off quickly and smoothly, touching the outside edge of each longitudinal step on its way. Drawing upon 13 years of airplane experience, the designer has



Baby Olds as she runs when planing.


PERFORMANCE THEORY
OF THE "FAIRCHILD-AERO"
OUTBOARD HULL.
ON QUICK MANEUVER FULL BEAM IS USED AND "V" BOTTOM GIVES PROPER BANKING ANGLE.
LOW PRESSURE AREA.
HIGH PRESSURE AREA.
POINTS OF CONTACT AT HIGH SPEED
POINT OF CONTACT AT LOW SPEED -
FRONT STEP.
REAR STEP.
BOTTOM VIEW
STREAMLINE COMPARTMENTS AFT OF TRANSOM GIVES ADDED FLOTATION WHICH IS TAKEN AWAY FROM SIDES OF BOAT BY STREAM-LINING, CAUSING OVERTURNED BOAT TO FLOAT AT AN APPROXIMATE LEVEL ANGLE
LONGITUDINAL STEPS
FRONT VIEW

worked out the dihedral angle so as to contribute to the speed and stability of the boat. In airplane practice the dihedral is responsible for the inherent stability of the ship. As applied to the Fairchild Aero boat it results in an unusually comfortable, steady, and smooth-riding hull for a fast racing boat.

In working out the features of the boat above the water line, airplane streamline principles proved of tremendous help. With the exception of the open cockpit, which is, of course, essential, the streamlining is ideal to secure increased speed through lessened air resistance. The Fairchild Aero above the water line is practically an oval, and amounts to an airplane fuselage riding on its side and offering a minimum of wind resistance. The fuselage idea is carried into construction practice with airplane cloth, supported by sturdy framing underneath, with the cloth surface treated with airplane "dope" and a finishing coating of aluminum paint.

Two flotation tanks, built as part of the hull, one at either side of the stern, give added buoyancy at slow speeds, but rise clear of the water after the boat has reached the planing stage. These pontoons are streamlined to increase speed by cutting down the vacuum and reducing dead air resistance at the stern. The boat weighs only 104 pounds with floorboards in place, and about 123 pounds with all incidental equipment, less motor, ready to race.

The principles involved in the design of *Baby Olds* are sure to be of decided interest to anyone following the racing game, and many new boats, built along the same lines, will be watched with interest in outboard races during the coming season.

Star Class News

THE first fleet to challenge for the 1928 Star International Championships, to be held at Newport, Calif., was the veteran fleet of Western Long Island Sound. This fleet successfully defended this title for four years on its home waters, but has been unable to place for the past two years. The second challenge came in from the Great South Bay fleet, newly organized in 1928 but already showing signs of rapid growth under the able direction of fleet Secretary Johnnie Atwater. New Orleans will open its international eliminations the first week in May. Vice-President Edrington has just received his new Parkman Star and is looked upon as a favorite. At Manila, Commodore J. C. Rockwell has been winning most of the preliminary races, but he will be unable to represent the Philippine Islands this year, and the second best boat will be named to make the long trip.

The first Star in France is being constructed at Cherbourg. The owner has written to European Secretary Colin Ratsey, asking that arrangements be made for him to compete during Cowes Week with the Solent fleet. It is probable that Colonel Neill will have his Star ready by then, and that the North of Ireland or Scotland will also be represented.

The 1928 Log of the Star Class is out, and copies may be secured through T. D. Parkman, 38 Park Row, New York City.

To Synchronize Racing Schedules

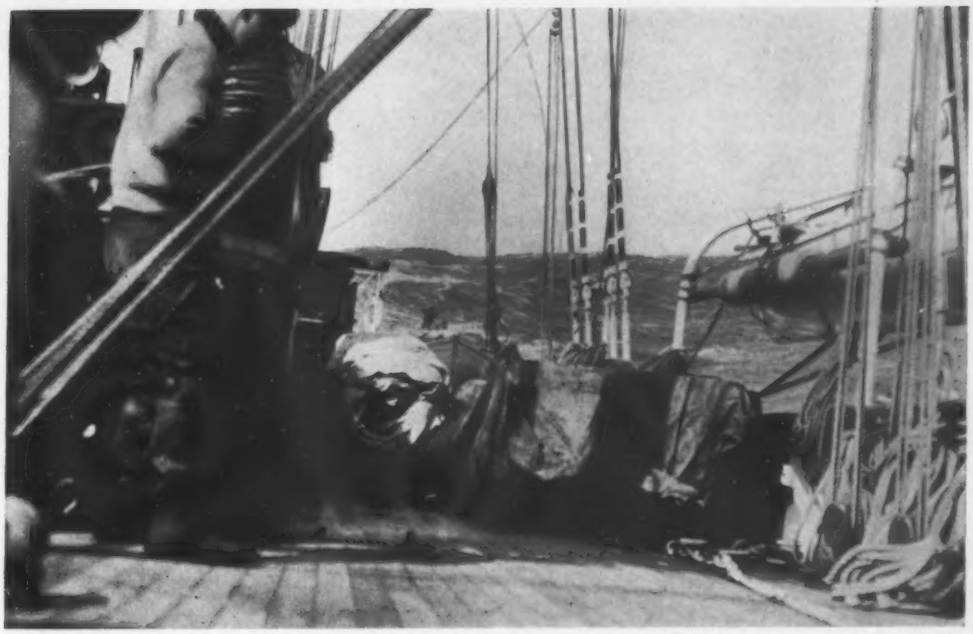
FOR the first time in the history of American yachting an effort will be made this fall to synchronize racing events. At the regular meeting of the New York Yacht Club, on March 22nd, the Secretary was directed to invite all clubs and associations holding racing contests to meet in New York, at some date to be decided upon later, for the purpose of arranging racing dates for 1929. It is believed that this will result in the establishment of recognized racing fixtures for some years to come, as in the British racing circuit, where yachtsmen know some years in advance when the Clyde and Cowes race weeks will take place.

Nearly a dozen clubs and organizations held up their schedules this spring until the New York Yacht Club decided on its annual cruise. Not only did this apply to the leading sailing events, but also to the speed boat regatta of the Narragansett Bay Association, which had asked a tentative approval of its August 17th–18th assignment from the American Power Boat Association, subject to the date of the New York Yacht Club cruise, as the power boat officials did not want the speed boats flying about Newport harbor while the big fleet was at anchor there.

A Sea Scout's Cruise to the Arctic

How Eight Chicago Scouts Served as Crew of the "Northern Light" on a Five Months' Cruise

By THEODORE B. PURCELL, JR.



"Heavy seas and strong winds followed us, and we roared down the latitudes under stays'l alone."

WHEN I stood on the banks of the estuary at Oakland and saw for the first time the *Northern Light* I had a real thrill. Her fresh, white paint work, and her polished teak deckhouses glistened in the bright California sun; the handsome curve of her high bow immediately attracted me. The beautiful Arctic schooner was obviously not built for her lines alone. The 140-foot mainmast, and high foremast, the sturdy hull and bulwarks, the new rigging and heavy canvas, showed that she was intended to stand up to the heaviest weather and under the hardest of usage.

The shining brass of the *Northern Light* made her look like an aeroplane landmark. There was brass trim on the wheel, all doorknobs and ports were of brass, and even the telegraph fixtures in the crow's nest were made of this metal. I could picture myself everlastingly polishing all of this ornamentation, and at the same time confiding to the doorknob (or porthole or deck-plate), in soft but emphatic terms, my personal and unbiased opinion of it.

When we boarded her the decks were certainly a mess, being littered with loose coils, twine, stools, shavings, and what not. That meant work for us. I would like to meet the dealer who advertised as *soft* the six tons of coal which lay on the wharf. However, we were consoled by a remark of one of the boys that "all this stevedoring will put hair on our chests," and it undoubtedly did put us in better condition to bear the rigors of the six months' Arctic cruise that was to follow.

The quarters in the foc's'le we Sea Scouts were to occupy were fitted with eight bunks and, happily, there was plenty of room to spare, for the crew had to eat, sleep and live within its confines. Abaft the foc's'le were the officers' staterooms and the galley. The engine room was just amidships, while the quarters for the owner and his party were aft and the finest I have ever seen aboard a ship.

After a week in dock, during which the ship was alive with bustling engineers, electricians, carpenters, painters, and curiosity seekers, the finishing touches were completed. Our staunch little vessel cast off from the pier, amid many parting cheers. We cleared the Golden Gate that afternoon, and the officer on watch ordered the course to be set for 280°. "Two hundred and eighty degrees, sir," replied the quartermaster, and we were off! One by one the passengers went below, a greenish pallor overspreading their faces. We eight Sea Scouts, constituting the crew, were divided into two watches, turn and turn about.

The schooner *Northern Light*, owned by John Borden, of Chicago, after clearing the Golden Gate on the first leg of her voyage to the Arctic.

To feel at last the regular rise and fall of the deck in the long, oily Pacific swell was great. It is hard to describe the sensation as you stand in the bows, on lookout, on a warm, starry night, peering into the darkness for a light. Or, perhaps, you lean in the lee of the radio shack, watching the water boil by the lee rail and swish in the scuppers. The wind

One of the polar bears taken in the Arctic.

Under power in the inside route to Alaska.

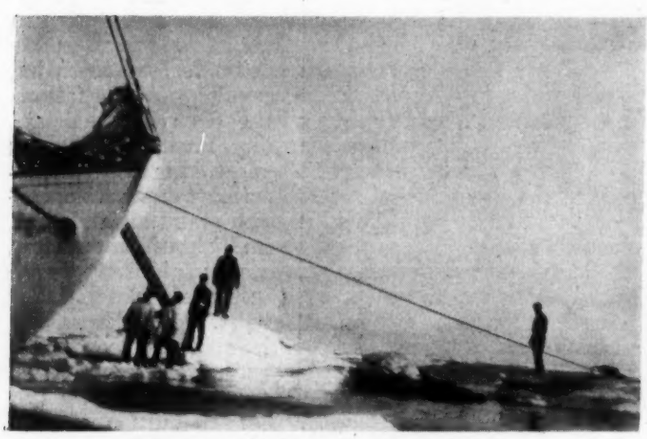
Poking her nose into an ice field.

was strong, the moon full, and it was glorious sailing.

It took us seven days to reach the quaint, old English town of Victoria, British Columbia, and we spent seven days there doing the inevitable overhauling that a new and untried vessel cannot escape. Then, early in May, we began our memorable cruise to the Arctic. We were taking the famous Inside Passage for this part of our route, and, therefore, could use only our auxiliary power.

The first day's sail fully came up to my expectations of the scenic beauty of British Columbia and Vancouver Island. For hours we passed high snow-topped mountains and great, thickly wooded hills, impressive in their grandeur and dignity. Nothing out of the ordinary happened on that part of our voyage. Ketchikan was our next stop. We approached it with no little interest, as it is the most important seaport in Alaska. Here is centered nearly all the fishing business of the Northwest. The harbor presented a very active scene, with the little gasoline halibut boats moving about all the time. But we were anxious to get on, and so the anchor was soon hove short and broken out again, and we twisted our way northward to Juneau, the Alaskan capital.

After one day's stay there we were at last about to leave civilization behind. Getting underway we set our course to westward and the open sea! We were to cross the Gulf of Alaska, an elbow of the Pacific noted for its foul weather. During our last day in the Inside Passage we worked hard to secure everything movable for the rough passage we expected. Boats were swung in and lashed, the two anchors were made fast on deck — in fact, every movable thing was secured to keep it from joining Father Neptune in the event of a heavy sea.



Northern Light moored to an ice floe.

And that night, early in May, we lost sight of shore and were once more alone in the ocean. The winds blew a gale during the whole of the five days — and came from the very direction in which we were trying to go, so that our canvas was practically useless. Only at rare intervals could we sneak into the foc's'le by way of the forward hatch, for the foredeck was washed by every other wave. The schooner pitched violently in the steep head sea during the whole of this passage, and it was a pleasant change when we got under the lee of the Alaskan Peninsula.

I remember particularly an incident which occurred when we were in the Shumagin Islands at this time. One of the duties of the Sea Scouts, as the crew, was to keep the decks spotlessly clean, and we, therefore, cherished no affection for the flocks of sea gulls which swarmed in this vicinity. So one of the fellows put two tempting morsels of salt herring, connected by a 3-foot line, on the rail. Two gulls soon swooped down for them and flew away, much more attached to each other than before their repast.

Unga, a little cannery town in these islands, was the last port that we would touch upon for nearly a month, and the guides and packers who were to help in the Kodiak bear hunts were taken aboard here. Straightway we made for Canoe Bay, a small anchorage off Pavlof Bay. Here we anchored for a long stay, and broke out all the camping gear. The land here, rarely visited by white men, is of a deep, spongy brown turf with no trees, the only vegetation being a sort of brush. There were high mountains, and rivers, but most of all there were the Kodiak bears that we needed for the Field Museum. During the three weeks we camped the party shot, in all, nine Kodiak brown bears. The largest of this species of bear so far recorded is about 15 feet in height, so, although our 10½-foot specimens looked big enough to us, there are larger. Such a long stay in one place soon became monotonous for us on the schooner. The weather, too, was rainy, and several times a blow would come up that would cause even our two heavy anchors to drag. So we were glad when the time came to weigh and make for Unalaska, in the Aleutian Islands. A short run of a day or two found us in this port, the base for the Coast Guard cutters of the Alaskan

The crew of the *Northern Light* would like to meet the dealer who advertised the six tons of coal taken aboard as *soft*.

The snow-covered mountains of the Alaskan Coast.

Division. Expecting to see a fairly large town, with perhaps a movie or two, we found instead many docks and a small group of frame houses. Incidentally, there were six tons of coal to load, not to mention oil and other supplies, and much shifting of cargo.

One of the two nights that we laid over in this port, we went aboard the *Haida*, one of the cutters that was refueling at the time, and had a "leather pushing" fest, rather in favor of the middies, though in the wrestling branch, Jack, one of our fellows, decisively saved our reputation.

A sea, smooth, cold, but everlastingly foggy, greeted us on the next day when we set our course for the Pribilof Islands. And standing an hour-and-a-quarter lookout watch peering into grey mists, with moisture dripping from the rigging, deckhouses and yourself is — well it's quite an experience. It was in just such a fog as this that Captain Borden, with the aid of our radio compass, decided that we were in English Bay, St. Paul's Island, one of the Pribilofs.

The Pribilof Islands are the sealing headquarters of the United States and are of international importance, and of course exceedingly interesting to travelers. We saw hundreds of seals on the rocky beach that was the rookery or breeding ground. Fighting was the order of the day — the most pugnacious males holding the choicest spots near the water, and collecting the largest harems. The young bachelors were sunning themselves on the grassy slopes out on a peninsula.

The United States Government deals with this industry in a very scientific manner. Only seals of mature age, whose fur is in good condition, are allowed to be killed. A census is taken every year and it is found that the number of seals is increasing under the vigilant protection of the government.

The aspiring baseball team of the *Northern Light* had a game here with the navy radio operators and added to their string of losses. But in extenuation, it should be noted that the navy fellows are said to have played with the St. Louis ball club.

One evening, several days later, off St. Lawrence Island (about 200 miles below the Bering Strait), we thought we were due for a real night's work. "Sparks" had picked up an S. O. S. from the *Charles Brower*, a trading schooner, saying that she was pounding heavily on a reef. Immediately canvas was doused, there being only a light breeze, and our twin Diesels actually vibrated us through the water at ten knots — something of a record for the *Northern Light*. You can bet we weren't standing around with nothing to do! The whaleboats and launch were thoroughly inspected and equipped, and life jackets and other life-saving gear were broken out. Again our radio compass came to our assistance, for even though the *Charles Brower* did not know her exact position, we at last found her at midnight. To our relief, she had worked off the reef and was unscathed, except for a sore keel. We had just missed the thrill of a real rescue.

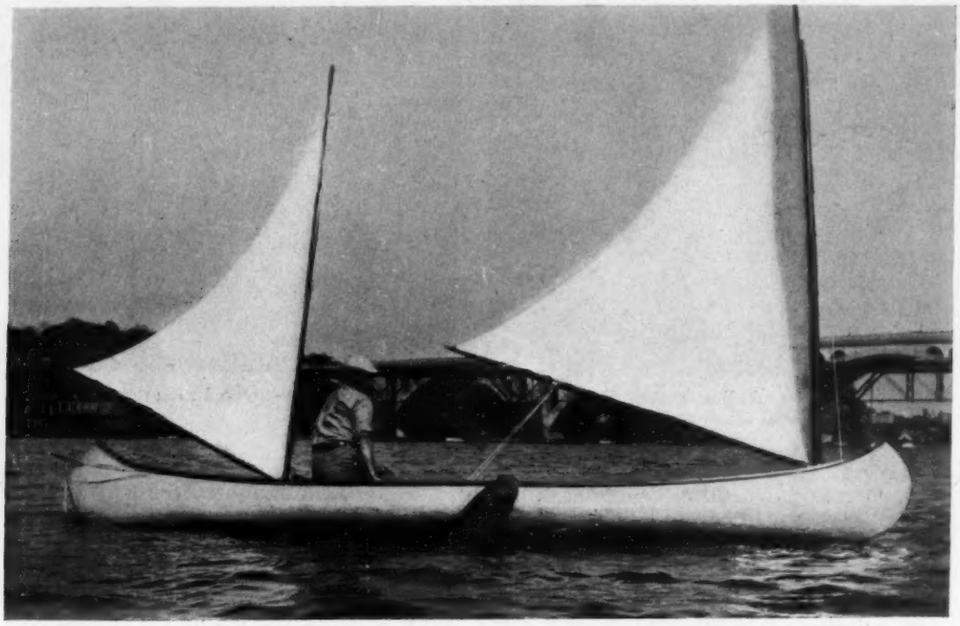
A few days later found us in Nome — the city of the lurid days of the gold rush. Here the Nome Kennel Club threw a dance for us, and we became real Nomeans or Arcticulars.

But like all our ports of call, our arrival at Nome meant more work than play for us. Oil and water, in drums, had to be lightered aboard — a long and laborious process. Nome is an open roadstead, the shoal water permitting no docks. Everywhere the old, decaying saloons and houses, now boarded up, are evidences of lost prosperity. At present there are not more than 400 whites in this desolate little outpost, as gold mining is now unprofitable there.

On July 11th we shoved off, to begin the last and most important leg of our voyage. This first jaunt into northern waters (we made two) was more or less uneventful, except, perhaps, the celebration of our arrival there. No sooner had we passed through the Bering Strait than the fury of an icy Arctic gale lashed the usually placid ocean into seething foam. The *Northern Light* went through it all right, but we were down to three reefs in the fores'l and when that happens aboard the *Northern Light* it is blowing some!

We met floe ice on all sides on this cruise. But in spite of it we touched on both the Siberian and Alaskan coasts and even went up to Herald Island, our farthest point north (71°–50′ N. Lat.), a few miles north of the latitude of Point Barrow. Nearly all the walrus hunting that we did was done here. (*Continued on page 106*)

The crew of Sea Scouts of the *Northern Light*. Captain Borden at the right.



The author's 18-foot canoe, with a rig carrying 114 square feet of sail, and so well balanced that she frequently steers herself for miles on end.

A Sailing Rig for an 18-Foot Canoe

By Howard Greene

EVER since I was big enough to knock together a square-ended punt, and canvas it with the remnants of a Lake Ontario lumber schooner's foretops'l, I have believed — yes, I have known — that there is no sport equal to small boat sailing. I have handled honest-to-goodness yachts, and power boats galore, and with a sailor's big-heartedness I love 'em all. But for real sport, with all kinds of kick in it and mighty little to worry about, there's nothing like a little 'un where you have to sail with the tiller in one hand and the main sheet in the other. The only boat of the belayed-main-sheet class that ever made me envious was my old friend W. P. Stephens' *Snickersnee*.

For several years I had been hauled out, as far as sailing was concerned; — thought I hadn't the time to spare and resolutely turned my back on the Potomac as soon as I had taken my first good look at it, well knowing the imp that lurks within me. But the little devil was on the job just the same, and one day in the spring of '27 he lured me to the river bank where the boat houses and canoe clubs are clustered as thick as shad-flies. Wandering from boat to boat, watching the owners getting ready to put 'em overboard, breathing the painty atmosphere of the boatyards, hearing the lap-lap-lap of the river, I fell, and fell hard — so hard that I almost bought a motor boat that happened to be right under my eyes at the moment. I didn't want a motor boat — I wanted to sail. But though I poked my nose into every possible corner, not a sailing craft could I find, unless you count those that had been denuded of spars and equipped with engines. To make it short, I turned in desperation to the canoeists' haunts, and when I finally wended my steps homeward I was the sole owner of an Old Town guide's model, 18 feet o.a. and 36 inches beam. Exactly four weeks later — four weeks of working hard every spare moment — I put her overboard, a completely rigged open sailing canoe.

Not only did I sail her all summer in all kinds of weather, but when winter came I snatched a warm day here and there and enjoyed it hugely. The last little cruise was on January 15th. An enterprising photographer saw me and the following Sunday my canoe "had its pitcher in the paper." This brings up the regrettable fact that though there are hundreds of canoes on the upper Potomac, I have seen but two sailing canoes besides mine. She is, therefore, an object unfamiliar and of great interest — so much so that "we" have several times graced the rotogravure sections!

I have sailed 16-foot canoes, but never before an 18-footer, and while I was prepared for greater stability I found more than I anticipated. With 114 square feet of sail she stands up well in a stiff breeze, and this is saying a good deal when there is no sliding seat and the crew weighs under 140 pounds. If the wind is inclined to be boisterous she takes kindly to a reefed mainsail, maintaining her balance perfectly. She will sail under reefed mainsail alone by shoving the leeboards forward a bit; but I have never had any difficulty in handling her in dusty going with both sails set and mainsail reefed. She steers "like an automobile," to quote an innocent bystander. She will not only sail for miles on end without a touch of the tiller, but will come about smartly when the main sheet is slacked and the jigger hauled flat. This is due to the care taken in balancing the rig. In my modest opinion the center of effort, the center of lateral resistance and the center of the water line should not be far apart in a small boat, despite the fact that many small craft are built with centerboards quite far forward and the sail plan arranged accordingly. My center of effort is very close to the center of the boat, and the leeboards a little forward.

Just how fast she is as compared with other boats of her type I have no means of knowing. Sailing canoes are rarities on this part of the Potomac. But she certainly is speedy. I once timed her for two miles in 14 minutes, running before a stiff breeze; it seemed like 20 miles an hour. During the coming summer, however, I am looking

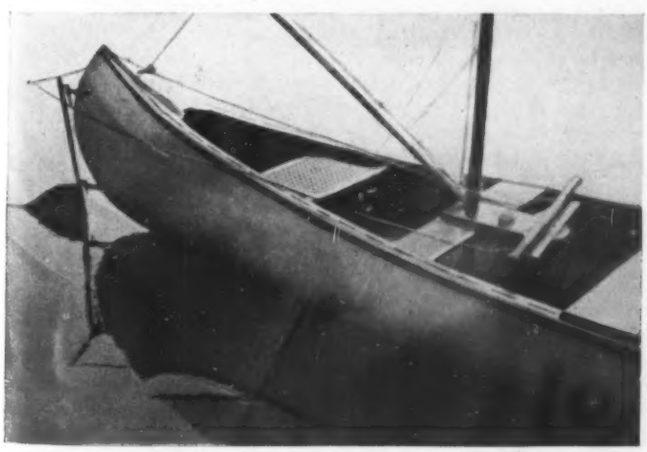
for keen competition, especially from your contributor J. V. (Jack) Hazzard, my esteemed fellow river-rat.

The worst thing that can be said about the boat is that she is wet when the going is rough. She is entirely open, even to open gunwales, and when she is moving fast and is well heeled the lee leeboard pumps a good deal of water into her. She now rests in the basement of my home, however, and is being decked (which will help a lot) and fitted with a pair of fantastic leeboards concerning which I make no prognostications, though I expect a good deal, including the elimination of the spraying nuisance.

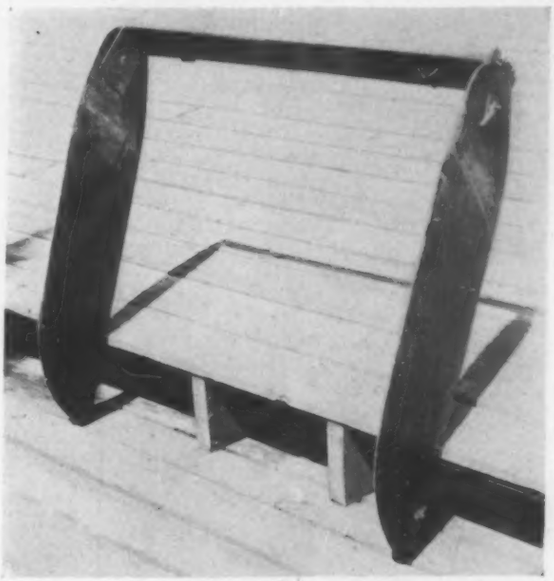
The sailing rig is entirely home made, including the steel drop rudder. All spars are of the best spruce I could lay my hands on, and they are carefully worked down to the very minimum weight; the ends, where there is little or no strain, are very small, but there is sufficient diameter where the strain is heavy. The result has been very satisfactory. There is some whipping when it blows, but not too much. I have tried deliberately to snap a stick, preferring this to trouble or anxiety when down the river somewhere, but the sticks utterly refused to let go, and I am content. I use sprits hoisting above comparatively short masts so that I can stow everything in the canoe.

Leeboards are used (though I dislike them) because a centerboard takes up too much valuable space in the boat, while any sort of fin or keel would interfere with beaching. At times there is a good deal of floating and half-submerged junk in the river, which constitutes a further objection to the keel, as well as to the dagger type centerboard. The leeboards are of spruce and less than half an inch thick at the thickest point, which is where the pivot bolt goes through. They are worked down thin toward the edges, and at the tips are no thicker than a paddle. Consequently they slip through the water with but a slight ripple. They are usually set sloping aft at quite a sharp angle, which somewhat further reduces the resistance. These long, narrow boards are much more satisfactory than the short, wide and thick affairs usually turned out by canoe makers. Experiments were made with shorter and wider boards, ⅜" thick, but they were not as good as the narrow form.

The right angle connection between leeboards and thwart constitutes quite a problem for the amateur. Being an enthusiastic amateur mechanic, I turned to metal construction and evolved, with highly satisfactory results, the plan shown in the drawing. It will be noticed that a considerable number of small brass bolts have been used rather than a smaller number of heavier ones, for the sake of neatness. There is no sacrifice in strength. I have no doubt these flimsy-looking boards spring somewhat when it blows, but this is more than offset by their



Details of drop rudder and sliding tiller.



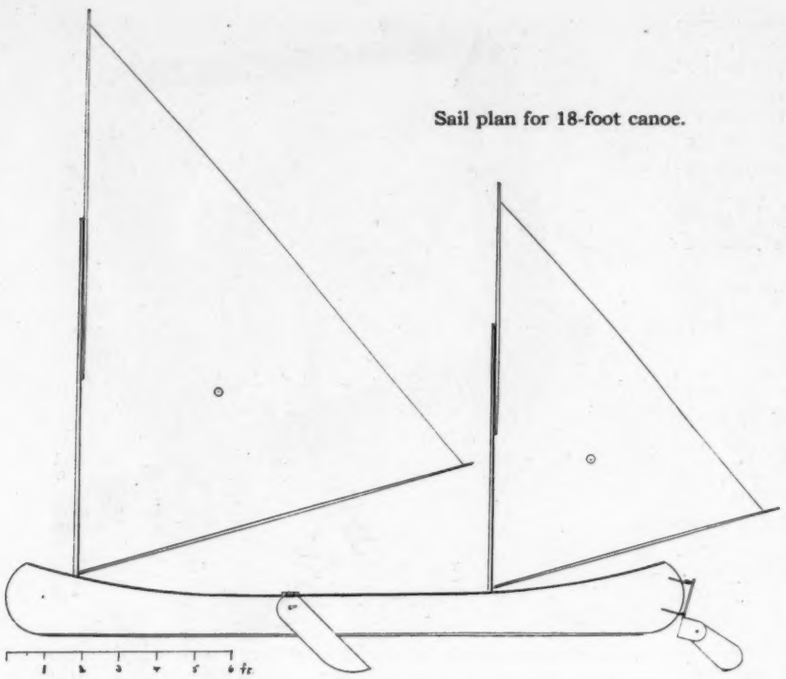
Leeboards and thwart.

advantages. They have shown no sign of weakness, except on one occasion when a motor canoe became too intimate and chewed a bit off a board with its propeller. Incidentally, the owner of the motor canoe was worse cut up than the board.

The top edge of the board is cut to a semicircle, struck from the center of the pivot bolt hole, and it slips under a brass lip. Thus the bolt is not called upon to carry all the strain and does not have to be big and heavy; the stiffness of the board is added to that of the brass plate against which it is bolted. This distribution of strain is mechanically good, eliminates heavy construction and, best of all, works well in practice.

Cold-rolled steel 1/16" thick is used for the drop rudder, and while it was more troublesome to make than a wooden rudder, it is more than worth it. It goes deep into the water, but swings up if it strikes anything. It is so thin that it offers negligible resistance. It is hung well back of the stern and gets a fine grip on the water. It is almost indestructible; if it gets bent it can be straightened and made as good as ever. It has a good deal of spring and elasticity, and while I don't know whether or not this has any effect on its action, I like it, and am inclined to think that it is an advantage. Certainly the rudder is exceedingly effective despite its moderate dimensions. The rudder post and yoke are of cold-rolled steel of rectangular cross section.

Rudder brackets are of strip brass ½" wide and ⅛" thick, bent to shape and riveted just forward of the pintle holes. They are fastened to the stern by ⅜" brass bolts, one in each bracket, passing through the stern timber from side to side, while the others go into the hull and are nutted on the inside. Care was taken to put them through where there were ribs to give good support, and there are brass washers under the nuts. Brackets, bolts, nuts, washers and holes were soused with paint before final assembly. Anyone who thinks this fastening is not strong will please hearken. Sailing dead before a fairly stiff breeze, the lower end of the rudder post fouled a wire mooring line and brought the canoe to a sudden stop. The wind was sufficiently strong to have capsized the canoe, and this would have happened if I had not let the main sheet run so that the mainsail swung around, pointing forward like a misplaced jibboom. After getting free I found the rudder would still steer the boat, and I sailed five miles home before I could make an inspection, which revealed



Sail plan for 18-foot canoe.

nothing except some deep scratches in the steel of the rudder post. What more could you ask?

In a boat so small that one has to hang out to windward when the wind pipes up a 'thwartships sliding tiller is the only thing, and is the usual sailing canoe equipment. In my case the yoke offered no problem; it is of oak, about the same length as the rudder yoke, to which it is connected by flat link brass chains with turnbuckles. Don't forget the turnbuckles! When it came to providing something for the tiller to slide in it was different. I might have used a wood block with a hole bored through it, or a couple of big screw-eyes, or a piece of sheet brass bent into a tunnel, but I wanted something neat and easy to look at as well as substantial. What I now have is a short piece of heavy brass tubing set on a rectangular brass plate which has holes for the screws that go into the yoke. The problem was to fasten the tube to the plate. This was done by first putting six machine screws into the wall of the tube from the bottom of the plate, and then sweating solder into the angles between the tube and the plate, forming fillets. The solder ran into all the crevices and tied everything together solidly. Not only is it strong, but it is worth while simply as a gleaming ornament. The tiller itself is part of an old hoe handle, which goes to show that even the sport of canoe sailing may be indebted to agriculture.

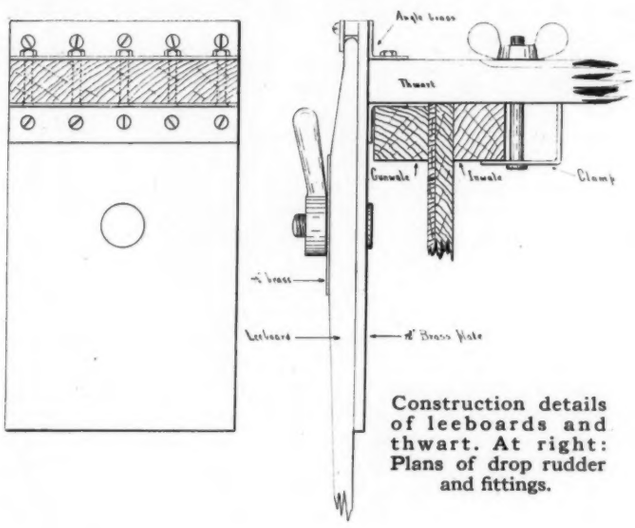
Protracted insomnia preceded the stepping of the mainmast. Way up in the eyes of her there is not room for much in the way of a block for the foot of the mast, and the job certainly had to be substantial. The plan adopted was to use a tube reaching from the inside of the keel to the deck, fastened at the foot to the aforesaid keel by means of two heavy angles, one extending forward and the other aft; the angles are secured to the tube with machine screws and to the keel with heavy wood screws that go down through everything and just miss coming through the keel proper. The position of the mast is such that it does not pass through the little forward deck, but it does not quite clear it either. So the after end of the deck was notched to let the tube in, and then a plate of ⅛" brass was fitted through which the tube passed, coming flush with the top of the plate. The plate, four inches wide, extends clear across from edge to edge of the outer wales and is fastened to outwales, inwales and deck by brass screws and bolts, tying everything together solidly. The arrangement has shown no signs of weakness.

In this connection, a problem bobbed up. The original mast whipped more than was comfortable, and a new one was made one-quarter of an inch larger in diameter. The problem was to put the new mast into a tube one-quarter of an inch too small for it. But the solution was forthcoming. The foot of the mast was tapered from full diameter at the deck to the diameter of the tube at the butt. The tube was split with a hack-saw, four cuts running from the top down nearly to the height of the angles. When the mast was inserted it simply spread the split tube. The hole in the deck plate was enlarged enough to let the tube spread, but no more. The result is just as satisfactory as if the tube were in its original condition.

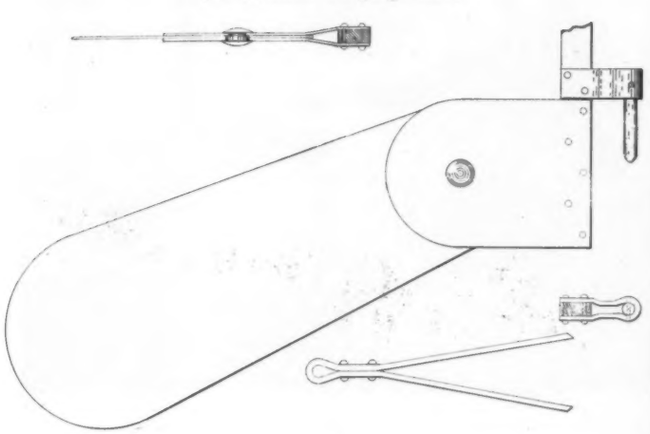
Stepping the jigger mast was simply a case of screwing a block to the bottom of the canoe and providing a thwart with a mast hole in it. But a useful kink was the use of a short projection running forward at right angles to the jigger mast thwart and carrying the steering gear, which is a whole lot better than putting in an extra thwart for the purpose. The cleat for the jigger sheet is between the tiller and the jigger mast, a most practical and convenient location.

The foregoing items have been described in detail, first,

(*Continued on page 112*)



Construction details of leeboards and thwart. At right: Plans of drop rudder and fittings.



Hard sailing in an ocean race, which may mean constant handing of sails, requires a crew that is always on the job. With half the hands unable to carry on, the burden put upon the others cuts down the efficiency of the crew.

The Sailing of Ocean Races

Some Hints on the Preparation and Selection of the Crew for Long Distance Events

By GORDON RAYMOND

THE racing of ships at sea is nothing new. It has existed ever since men first pushed the bows of their primitive vessels beyond the distant headlands, whether bound on voyages of trade, exploration or conquest. Profitable markets, or new lands to be had for the taking, awaited those who arrived first and the urge for speed has always been held. It has played its part through the ages in the development of ships and the making of seamen. For those who knew how to get the most out of their vessels, under fair or adverse conditions, were the successful shipmasters.

But in the truest sense of the term, ocean racing goes back to the clipper ship days, that era in the progress of naval architecture which produced sailing ships of such refined lines, so beautifully rigged, and so nearly matched in point of speed, that frequently less than a day, and sometimes only a few hours, would separate crack vessels of competing companies at the end of a passage that may have extended half around the world.

American yachtsmen have taken part in ocean racing intermittently for something like 60 years, ever since the first race across the Atlantic for yachts was instigated in 1866, between the schooners *Fleetwing*, *Vesta*, and *Henrietta*, as described in YACHTING recently. The last, and by far the greatest Transatlantic race was sailed in 1905 for the German Emperor's Cup, in which there was a fleet of eleven large yachts, the race being won by the three-masted schooner *Atlantic*, in the record time of twelve days and four hours, over a course from Sandy Hook to the Lizard. The race this year from Sandy Hook to Santander, Spain, for cups presented by the King and Queen of Spain, and in which this same *Atlantic* is again entered, should prove a fitting sequel to this last great race.

Of late years the race from New London to Bermuda has attracted keen interest in this country, due primarily to the fact that a great number of small seagoing yachts are usually entered and that practically all the varying conditions of weather can be experienced without demanding as much time as a Transatlantic race. Though only 660 nautical miles in length, some 200 miles of this is Gulf Stream sailing, and this alone is likely to call forth the best in seamanship, which after all is the quality that is bound to count the most when conditions become adverse and the weather dirty.

Once fairly started on an ocean race, there are no harbors to duck into, and one must stand and face anything that comes along in the way of weather. In the Bermuda run there is the Gulf Stream to cross, approximately at right angles, and this may prove a severe test of hull and gear, as well as of the stamina of the crew, and, lastly, there is a neat bit of navigation necessary to make a landfall on an island not over 12 miles long and something under 250 feet in altitude. This is, after all, a pretty small spot out in the Atlantic. Considering the dimensions of the average contestant since 1923, this is really a small boat race, and the conditions met with make of it a real sporting event from every angle. Speaking of ocean racing courses, we must not forget the revival of the Honolulu Race, on the Pacific, which will be sailed this year for the third time since the war. This is also a long, gruelling grind, calling for plenty of nerve and endurance.

In all ocean races there enters the matter of seamanship, and that rare quality of "command" that made some of the clipper ship passages epics of the sea. The term "seamanship" includes so many virtues that it is difficult to pick out the most important that may go to the winning of any particular race. In one Bermuda Race the writer happened to be with a man who had shown real ability and who was a good sailor. Yet on clearing Montauk Point, with a fresh breeze about five points on the port bow, he insisted on holding up to the exact course for Bermuda, at the expense of not being able to carry his topsails, though he was aware that by running off a point and carrying both topsails as well as the fisherman staysail, we could easily add a knot an hour to our speed, and we were doing better than nine then. The ship was one of the fastest in that particular race at running or reaching, but her topsails were regular bags, and a poor fit into the bargain, so by holding her up to the given course the kites were not only useless, but a liability. It would have been good sense to gamble on winds from the south'ard or southwest during a race of several days in the month of June, and by running off to leeward a point we would naturally be some 25 miles a day further ahead and *to windward* when the shift came, which was just what happened to the winning boats. But our skipper's argument was that a straight line between two points was the shortest course. True, but the mistake was made in applying Long Island Sound racing tactics to a 660-mile ocean race.

Three days later, and all this time without a decent hot meal (our professional seagoing cook having cashed in off Montauk), about the middle of an afternoon of "sail drill," with the biggest mainsail in the fleet, in hard squalls of wind recurring every 30 minutes, this same man finally ordered the mainsail on deck in the middle of a particularly vicious squall, and kept it there while he went below personally and cooked up a hot meal, the one important thing necessary to keep the gang on their feet and going. This was real seamanship in the form of good judgment; and I might add to the wisdom of this decision by stating that, including the cook, there were only seven of us to manage the biggest entry in the race, and, at that, two were inexperienced.

Ah yes, the cook. Supposed to be seagoing, his face appeared at the galley hatch abaft the foremast just after Montauk had been dropped, but somehow he failed to show any pleasure in the fact that we were doing ten knots, and had most of the fleet behind us. On the other hand, he seemed to have something on his mind, but presently he appeared again, this time with determination in every feature and no doubt whatever about the issue. He lost. Thereafter, the recumbent figure of our cook occupied the lee transom in the saloon, or his bunk, for the rest of the race.

No, there is a lot more to ocean racing than hull form and rig, light sails and an elaborate menu. Much is written each year prior to the race about preparation. So and so, it is said, has a fine schooner, a fine racing bottom has been put on her and she has light sails galore. Then the owner stocks the galley to the hatches and gathers about him a crew. Ah, yes, the crew. Now we come to it. Of course, the owner expected to get everybody he asked to go. But there are bound to be desertions and someone always breaks the sad news that he cannot go, and suggests a friend. No, the friend is not very experienced at sea, but has been sailing on Long Island Sound — a fine chap, just crazy to go, and perfectly all right if you tell him *what to do*. Well, there you have it, and it is just this sort of thing that reduces the chances of winning by 50 per cent. "What!" exclaims the yachtsman (never before in an ocean race), "You mean to tell me a few green hands reduce your chances by as much as 50 per cent? Why, give me three or four good men of my own choosing and I'll take a chance on half a dozen green hands so long as they are big and strong and can pull and haul." Yes, but what good is your big man if he doesn't know how to wrap one leg around a stay or a shroud while he hauls with his arms and body? What good is he if he needs both hands to hold on with in a seaway, and, finally, what good is he when he's in his bunk sick?

All this may sound overdrawn, but don't forget that even some of the old hands are subject to *mal-de-mer* if there happens to be a sea on the first day out, and it just so happens that 50 per cent of the average outfit has succumbed at some time during the race on each Bermuda run. This is largely due to lack of time for shaking down, most of the crews getting aboard only a day or two before the start, or at New London after several hard days at the office, tired and soft, with the result that an hour or two of ground swell precipitates the usual situation of friendless misery.

All this inevitably leads to the time when the skipper, who really does possess the necessary qualities of seamanship, cannot take advantage of them because he suddenly finds himself short-handed at the critical moment. Being short-handed does not necessarily mean simply a reduction of the number of men available for active service, but it may come about through the surviving members of a crew becoming exhausted as the result of standing the other fellows' watch. The picture is something like this. Darkening horizon up to windward, scud flying low overhead, wind hauling and glass slowly falling, with a nasty cross sea beginning to make steering a hard job. Gradually the wind, which has been strong but steady, begins to come in a succession of short, ugly squalls, perhaps with rain. The ship up to this time has been doing nicely, driving along with lee rail buried; but now she staggers, is pressed, overpowered, is unquestionably carrying a dangerous amount of sail. Topsails have been doused long ago; now it becomes a question of how long to carry the mainsail. The skipper, anxious to get every mile possible, holds on through the first two or three squalls, but then a particularly heavy one roars down, with rain giving it more weight, and it becomes imperative to shorten sail. With a strong active crew this maneuver is accomplished in short order, and when the halliards are eased away strong hands are ready to muzzle the sail on the boom as it is lowered. Then, with the first signs of easing up, all hands hoist away and the ship has scarcely hesitated on her headlong course.

This is all fine with a crew one hundred per cent; "sail drill" can go on for some time before they begin to wear out. But what happens when the situation begins with only half the crew fit for duty and already pretty well worked up? Here is a different kettle of fish. Suppose the skipper holds on too long and gets a knockdown. Short-handed, the crew struggles to lower away with insufficient power to muzzle the sail. Battens break and tear the sail, or a seam may let go. Even if this does not happen, there is delay in making sail when the lull comes, fearful lest it hasn't blown over and of being caught again. Here is time and distance going to waste, either through failure to carry sail as long as possible, or delay in getting sail on again in the lulls — perhaps jogging along under foresail and staysail for 15 or 20 minutes before deciding that the squall is all over. Repeat this performance several times and pretty soon all hands are tired, fed up, done in. Then the skipper, realizing his inability to cope with a bad situation if caught again, orders the mainsail on deck and kept there until the crew get their strength back, while his opponents, under similar conditions, but with full man

(*Continued on page 116*)

Early Experiments with the Bermudian or Jib-headed Rig

How It Was Tried Out Some 30 Years Ago, and the Conclusions Reached as the Result of Careful Experimentation

By Robert J. Scott

TO many of the older generation of yachtsmen the most interesting period of yachting was when no broad gap separated the racer from the cruiser, and the usual outfit of a new boat comprised a set of racing as well as cruising canvas, and often a complete set of racing spars as well.

Yachts were not then of almost stereotyped form; scientific designers were few in number, the builder being in most cases his own architect, and there was ample opportunity for the educated amateur to endeavor to solve the problem of securing maximum speed in a seaworthy hull. These conditions resulted in experimentation in all forms of body and rig. Each new vessel was a pleasing, unknown quantity, whilst what is now the yachtsman's closed season was a period of great activity during which sail might be added, ballast lowered, bow or stern lengthened, and even beam increased by padding on grown frames, or, where steamed timbers alone existed, by the somewhat primitive method of removing the deck and expanding the hull by means of screw-jacks.

In every country there were vessels which had been kept in the forefront by judicious alterations, such as the *Maria*, *Gracie*, *Sappho* and *Elmina* in America, and the *Arrow* and *Alarm* in England. In far off New Zealand, where few wealthy men engaged in the sport and sound vessels were far too valuable to be lightly discarded, this practise of alteration and experimentation continued to a later date than elsewhere.

The life history of a wonderfully successful little craft, the *Zephyr*, built in 1879 and still in active work as a seagoing fishing launch, is interesting in that she was in many ways far in advance of the vessels of her time, and also in that a series of systematic experiments with gunter, cutter and Bermudian rig were made upon her, no less than eight different rigs being tried out.

Built of kauri wood by a well-known wager-boat builder, Green, of Sydney, but at that time of Dunedin, N. Z., who, it is said, moulded her broad planks into place with hot irons and steaming cloths, the *Zephyr* possessed all the characteristics of the yachts turned out by that master craftsman — hulls framed of light double planking, fitted without a trace of caulking so beautifully that after years of hard service they still appeared as if cut from a solid block; garboards and rabbet line heavily cambered in a fore and aft direction; low freeboard and shallow bodies from four and one-half to five beams in length, with an expanded "V" midship section (the *America* section in fact) slightly forward of the mid l.w.l. length. Though tender, owing to lack of beam and absence of outside ballast, these hulls were beautifully modelled and showed extreme speed on a reach or run in strong winds, and on any point of sailing in light breezes. It is, however, probable that deficiency in stability was often compensated by shifting ballast.

The *Zephyr* when launched (Fig. 1) was approximately 33 feet on the l.w.l., 36 feet over all; with 7 feet beam, and 3 feet 6 inches draft. The minimum freeboard was 12 inches. She was rigged with a modified sliding gunter, the lower mast, which had great rake, being fitted at the cap with crosstrees, over which the stays of the gunter mast passed. The luff of the sail was about 44 feet and its foot 34 feet in length, the total sail area being about 900 square feet, an amount which, with three and one-half tons of inside ballast, it would have been impossible for the boat to have carried with other than a triangular rig.

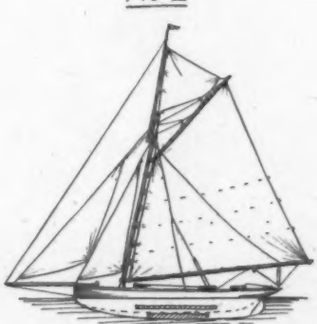
But sail she did, and I well remember my surprise on meeting her with the *Isca*, a Dixon Kemp-designed plank-on-edge seven-tonner of seven feet draft, at being completely outwinded by this shell of a boat drawing but three feet six inches. It was only a freshening of the breeze which, compelling *Zephyr* to reef, enabled *Isca* to defeat her.

In 1881 *Zephyr* was shipped to Melbourne, where she won the Second Class race at the Exhibition Regatta, but in a subsequent private match she was overpowered in a breeze of wind by the Watson-designed *Madge*, a sister of the ten-tonner of the same name which was about that time making a sensation in America. On *Zephyr's* return to New Zealand she was purchased by the late T. S. Baker, a well-known all round athlete who had on three occasions rowed against Cambridge in the Oxford boat.

Fig 1

"Zephyr" – 1880
Sliding Gunter SA. 900 sq ft

Fig 2

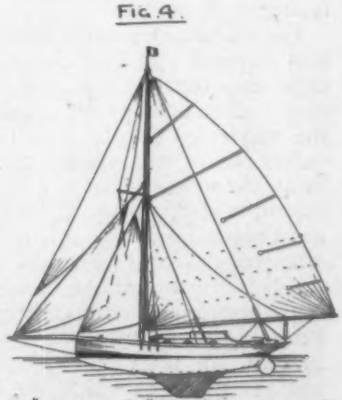


"Zephyr" – 1888
Cutter SA. 900 sq ft

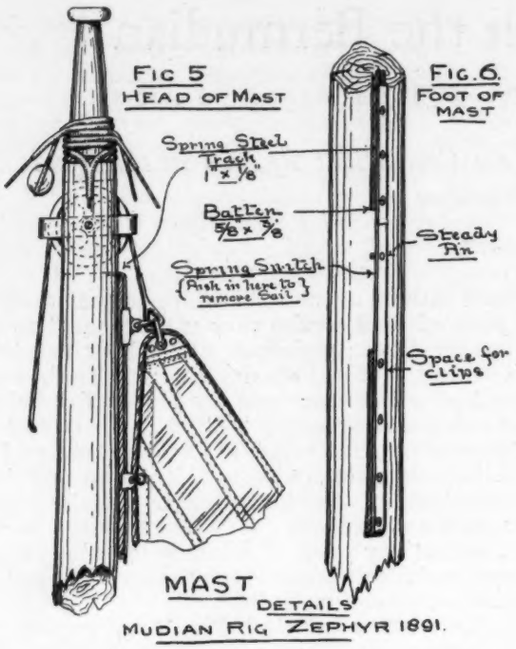
Fig 3

"Zephyr" 1891 "Mudian"
SA - 900 sq ft Rating 4·95

Fig 4.



"Zephyr 1895" Batswing"
SA - 1000 sq ft Rating 5·5



If suitably canvassed she was always a good vessel, but the great difficulty of varying sail with the gunter rig caused Baker to convert her into a cutter of equal sail area, the rake of mast being still retained (Fig. 2), though a ton of lead was placed on the keel and lead substituted for the remainder of the iron ballast. The alteration proved a dismal failure, the vessel being unable to stand to her canvas in even a moderate breeze. On the writer's advice the sail area was reduced to 650 square feet, the mast being shifted a couple of feet aft and placed upright. She could now carry sail fairly well but her old exceptional speed was completely lost so that when, in 1891, she came into my hands, the triangular rig was restored, but in a form similar to the now fashionable Bermudian (Fig. 3). Though no change of ballasting was made she now carried 900 square feet of canvas as well as she had carried 650 under her cutter rig.

Undoubtedly, to modern ideas, she was overcanvassed and overballasted. In all but the finest of weather it was still necessary to cover most of the 'midship hatchway, and for the steersman to tie the canvas apron attached to the steering well around his waist, whilst the fair lady, who in those days often sailed her, complained bitterly at being compelled to put her arm up to the shoulder in the lee wash in order to luff the vessel. But all *Zephyr's* old speed had been recovered and she easily became the fastest — if the wettest — of the second class yachts.

For cruising, a smaller mainsail with a short main boom was shipped, and here the inherent defects of the rig became apparent. In a seaway the topmast preventer backstay had to be kept set up, and as when running heavily the tendency to jibe was far more marked than in a cutter, there was always the haunting fear of carrying away the mast, whilst in a really hard and puffy blow the attempts of the boom to "sky" like a spinnaker pole were most alarming. Twice it succeeded in nearly attaining the crosstrees, around which the sail became wrapped, but the sail being new and the crosstree ends padded, it was on both occasions fortunately got down without damage. Probably this action would not occur with the true Bermudian sail, the tack of which is made fast some way below the point at which the boom crosses the mast, the foot of the sail thus forming a kind of bobstay.

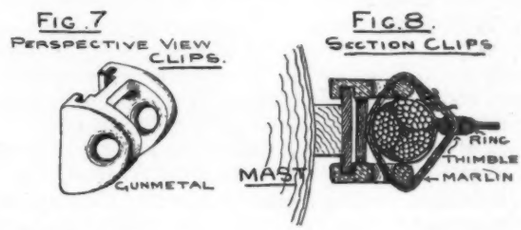
Another inherent defect was the rapid moving forward of the center of effort with reduction of canvas. It was found that with a couple of reefs down, no foresail, and the smallest of spitfire jibs, the vessel carried a lee helm, and this at a time when weather helm was necessary for safety, whilst the absence of the foresail was badly felt when driving against a head sea. With the still narrower mainsails of today this defect would not be so marked, but must always exist in a single-sticker. A difficulty feared in the free running up and down of the sail did not eventuate. On no occasion did the sail jam, even when lowering was attempted with the boom well off. The arrangements used were as follows:

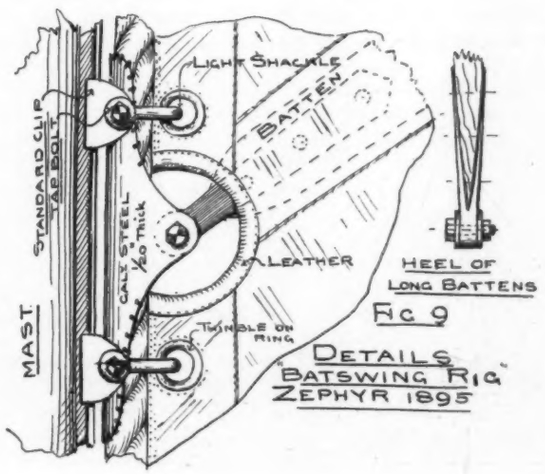
A track was formed by a strip of unhardened spring steel 1" x 1/8" with rounded edges, planted on a wooden batten 5/8" x 3/8" which had been tacked by a few nails to the after side of the mast, the whole being then secured by long brass screws pitched about 6 inches. The sail clips which slip upon the track were of gunmetal. (This was before the days of aluminum alloys.) A perspective view of one is shown on Fig. 7. The method of seizing the clips to the sail as shown in section on Fig. 8, allowed a considerable amount of desirable freedom to the luff rope. An optional switch (Fig. 6) at the foot of the track permitted retention on, or withdrawal of, the sail from the mast. The sail was hoisted by a flexible wire halliard furnished with a watch tackle purchase at the hauling end. At the mast head this halliard passed over a large, light gunmetal sheave furnished with a very light guard (Fig. 5).

In handicap racing, and sometimes when cruising, a topsail, shown by the dotted line on Fig. 3, was used on the reach and run. It was sent up in stops between its two bamboo yards which were jointed together at the tack. This sail required just the same number of "strings" as the ordinary topsail. It was quite effective.

Zephyr held her position in second class racing for some years, being further improved by dividing the head sail, reducing the rake of mast, and shipping a new suit of sails, the mainsail having short battens in the leach; also by transferring half a ton of lead from inside to the bottom of the keel, increasing her draft to four feet.

(*Continued on page 102*)





Rough Sledding with *Mary*

Part II—Blown Off from Bermuda, San Juan Becomes Our Destination

By HENRY C. ROWLAND

ON Sunday, October 23rd, the west wind still held, and worse than that, it freshened. The steep head swell began to mount again, cresting a little. The situation now demanded one of those decisions that are so difficult to make, and with which mariners and explorers are often confronted. What point had we best make for? We could not sail our course for Bermuda, with the wind as it was, nor could we make more than two and a half to three knots on it under power. The westerly might hold for days — and again it might blow out at any moment and the wind come fair. Another possibility was that of the weather going bad again as we hauled in on the islands, so that we might miss them entirely. Worse yet, it might blow up another gale and jam us onto the outlying reefs.

Our gas was getting low and the sails and running rigging were now in very bad shape. I had spare sails aboard, but they were well used ones and lighter. In fact, I doubted that they would stay with us through a heavy squall. The foresail was so stretched and bagged that the foreboom drooped forlornly, would not swing clear unless peaked up so that the jaws of the gaff had no grip of the mast, and slipped out and off it. The two outer cloths of the mainsail leach waved like a banner, even before the wind. In a strong breeze this slack canvas flapped so violently as to spring the mainmast back and forth. *Mary* has no springstay, because, although the mainmast is the taller spar, the peak of the foresail is higher. A jumper stay is supposed to brace the mainmast, but I never saw one that did, and mine was no exception.

The standing rigging, shrouds, forestay and jibstay were dangerously slack, and I could not set them up. Give me good old dead-eyes and lanyards. The jerking of the shrouds had wrecked the sailing lights, so that all we had at night was a hurricane lantern swung on the gallows frame.

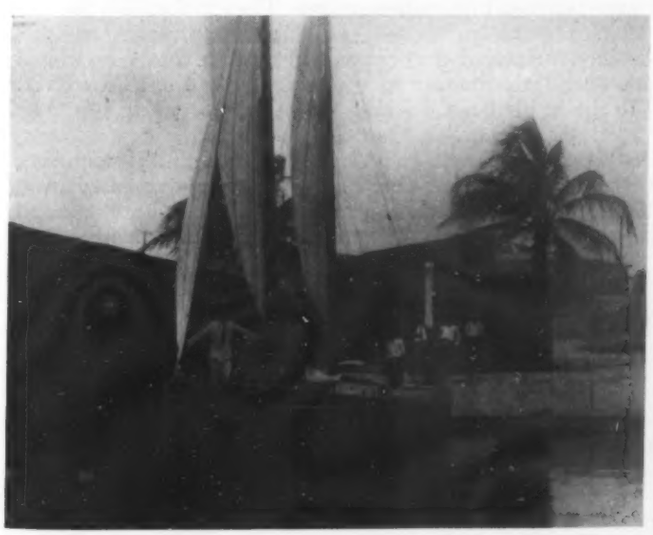
But worst of all, the halliards and topping-lifts, new 18- and 23-thread manila, were stretched to the diameter of lead pencils. Here was a fault of preparation. I had thought that there was stuff aboard for new halliards, but a coil in the forecastle proved to be too small. At a pinch I could fore-end the halliards, or use the lifeline that ran all around the boat from the end of the bowsprit aft, around the gallows frame, and forward again, for a foresail halliard, and I could put a long splice in the topping-lifts, that were heavier and less worn than the halliard, and use them, cutting up a light kedge anchor line for topping-lifts.

By this time I had reason to consider *Mary* galeproof if properly handled. Mere wind and sea could only delay our passage. We had ample food and water for another two months, and after the first day out we had been spared that wearing hardship — the cold. Wet or dry — and principally wet — we never suffered from chill.

If I could have felt sure of making 150 miles and getting safely into Bermuda, even in a week, I should have tried for it. But there was no such assurance. Much bigger vessels in the same position had frequently failed. The danger now was not to our lives. Actually, I do not consider our lives to have been in any danger, before or afterwards, whether from the boat's foundering or from our getting smashed or knocked overboard. It was very possible, however, to get crippled in some way so that we could not get on at all, and to drift about indefinitely. The spars would stand, but I was not so sure about the rudder, sprung a little in the last gale. The condition of the sails and rigging I have already described.

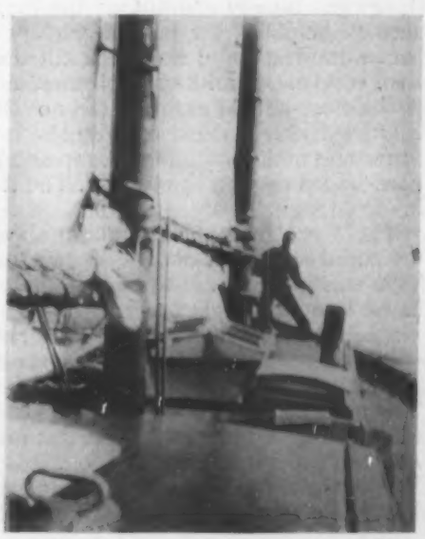
Most landsmen, and those who go down to the sea in big steamers, are under the impression that the sea throngs with ships. So it does — in the traffic lanes — just as the Rocky Mountains throng with trains — on the railroad tracks. Off either of these lines of transportation one finds himself very much alone. One might easily get lost and worn out and die of a good many things besides pneumonia between transcontinental routes, whether at sea or ashore, and nobody ever know what manner of fish or bird or beast had undertaken the disposition of the remains.

The worst of my own cares was constant worry at the growing anxiety of wife and children as the days passed. I was already overdue in Bermuda. There was no telling when I might land up anywhere else. This was a con-



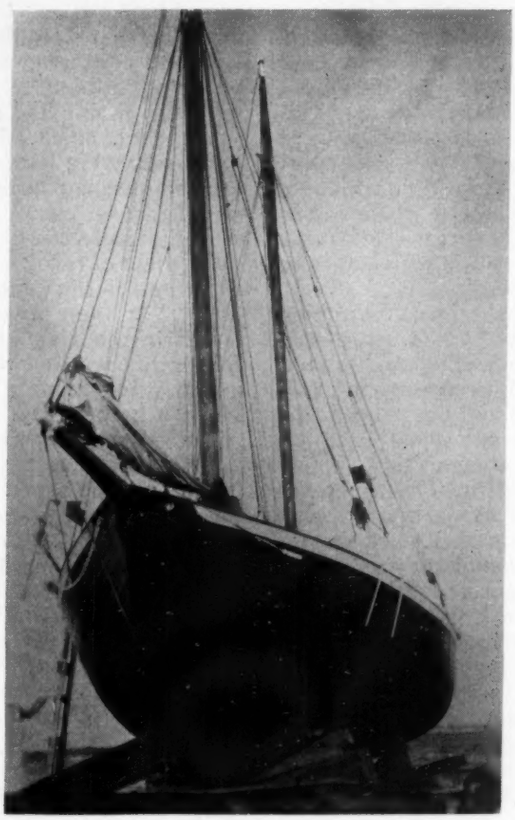
Left: *Mary* alongside wharf of Porto Rico Coal Company, San Juan, after her long and strenuous voyage from Edgartown.

Right: Deck of *Mary*, looking forward.



siderable factor in my decision to give up Bermuda and make for Porto Rico. The Pilot Chart of the Atlantic showed a track for low-powered steamers from European ports about 200 miles south of Bermuda, and as these lanes are fairly well travelled there seemed a good chance of speaking a ship. We swung off and let her go S. by W.

There is a soft belt to the southward of Bermuda where the winds are light and variable before one may expect to pick up the N.E. Trades — if one is lucky. As the bags aloft were of about as much use to us now as the family wash hung out to dry, we lounged along under power. These two days were the only ones in the 22 of the voyage from Edgartown when we were not reefed — and when you have to reef *Mary* it is blowing some.



Mary, **hauled out at San Juan to receive a much needed coat of copper paint, after nearly three weeks of buffeting.**

Having abandoned Bermuda, I did not care much whether I got a sight or not, so of course there was every chance. The taffrail log was useless, partly because the masses of weed constantly fouled it, and then because a big fish bit off the spinner. Noticing that the fly wheel had stopped, I hauled in the line and found it cut cleanly, as if with a pair of scissors. This made me suspicious, so I bent on a spare, then streamed it for a few moments and hauled it in. A fish about two-and-a-half feet long, of which the back was a deep indigo, was following the spinner and snapping at its end. I yanked it away from him. Quinton baited a hook with codfish and threw it over, but this also fouled almost immediately with driftweed. I have never seen so much of this pretty marine growth all over the place. On what may have been the southern edge of the Stream we ran into patches so large that it knocked down the wave crests. The southerly gales must have drifted it from some vast eddy, and scattered it about.

We were able now to cook for a couple of days, before things got blowsy again. Our diet for the past week had been principally raw onions, turnips and cabbage, raw bacon, hardtack and raw slack salted codfish. There were also condensed milk and prunes, and when the spill of the close-hauled mainsail did not shunt the wind down Charley Noble and back the smoke into the cabin, Quinton would make enough pea soup and boiled potatoes and hard-boiled eggs to last awhile. The trouble was he never made enough.

There was really no complaint about the food, but for me there was a great deal of difficulty in getting sleep. This was not because there were only two of us, but because I could not get to sleep in my watch below. In this respect I am not the complete sailor, being unable to relax the moment relieved. Quinton, on the contrary, was asleep the instant he struck his bunk — sometimes half out of it. There is, of course, a difference between a man in his twenty-fourth year and one in his fifty-fourth, and even ashore I am a light sleeper. Your real sailor needs to be a bit phlegmatic, and not overborne by a sense of responsibility. He must be able to go below and say "Well, I've done my damnedest, angels can do no more . . ." and tear off at least two hours of buzz-saw sleep. When one's temperament compels the listening to every sound in a general diapason of uproar, and accounting for it, Morpheus withdraws in disgust. The result of this was that every day I got a little more tired, and the interpolations in a column of logarithms were more and more difficult to do without error. Curiously enough, for an indifferent navigator, I never worried in the least about my position, nor about bringing *Mary* straight into port. Just why this should be, I cannot say, but the fact that I had so often brought her safely into difficult ports by day and night, in fair weather and foul, may have had a lot to do with it.

On October 25th, as we were drifting easily along over a smooth sea except for the ground swell, I looked up from the wheel to see a big steamer coming up on a course that would closely intercept our own. The sky that day did not look so good — a big fan of light cirrus cloud with its apex on the horizon to the southward and its fringe of feathers with their tips brushed back. Also, a film was gathering. That settled it. I determined to heave that ship to, if she would regard my N. C. signal, which is one of distress. It is to be taken, I think, rather as urgent need than one of desperation, like the reversed ensign I once had occasion to fly vainly from a motor cruiser in the Black Sea, before being smashed on a reef in a hurricane.

The big freighter coming up proved to be the German S. S. *Neuwerk*, of Altoona, Captain Thomsen, bound for Brunswick, S. C. When close aboard I explained my needs through the megaphone. These were only three, but urgent — to send a radio, let us have some gasoline and a coil of rope. Captain Thomsen called that he would send a boat. It came alongside presently, in command of the mate and manned by three bearded big-framed sailors. They looked like Norsemen. The mate, a well set, handsome young fellow, seemed surprised and concerned to hear that I had been blown off Bermuda and was holding on for Porto Rico. He shook his head, looking very grave.

"But the weather, Captain?" said he.

"It can't be much worse than we've had," I told him.

He glanced up at the masts, which were gashed from the sail hoops, noted the slack shrouds flapping back and forth as we rolled, took in the dejected droop of the booms and shook his head.

"The captain thinks we are going to have a heavy storm," he said, "and so do I." He glanced aloft. "Look at the sky."

"Hurricane?"

He nodded. Captain Thomsen called from the bridge of the *Neuwerk*, "Could I not tow you, sir?"

"No, sir," I called back. "My boat is too beamy. She would tear out the bitts, or mast, or whatever the line was fast to."

He nodded. The mate looked at me with a worried ex-

pression on his jolly face. I could guess what was in their minds. They were thinking, "Here is a man, no longer young, cruising for pleasure with one sailor, now in a fair way to get lost. He is presumably rich enough, being American, and besides his boat is probably insured. At any rate, what does her value weigh against his health or even life? The gear is in very bad shape and will not last out another gale. He ought to abandon her and come aboard."

This, I believe, is what they thought, but what as sailors they would not for worlds have said to another sailor. It is a dreadful thing, a shameful thing, for a sailor to leave his ship at sea until she is leaving him. This is no question of relative money values, but pride of craft. "Don't give up the ship" is a slogan not limited to naval tradition, but one that is constantly observed by the Merchant Marine. *Mary* was insured for $6,000, about half her value, and for me to have left her because she was battered as to sails and rudder and rigging, and I was tired, and these ship's officers believed another hurricane to be on the way, would have been a disgrace. For me to have left her, then collected the insurance, would have been dishonest, downright barratry. I presume that the master of a vessel is vested with the right to say when she ought to be abandoned, but if he says that thing when there is a chance of bringing his vessel into port, then he is neither a sailor nor a man. Even for an amateur sailor to say, "Well, this boat's insured, so I'm not going to take a chance on losing my life in the squall coming up. Let's run her onto the beach . . ." is, morally if not legally, barratry. And barratry is the sailor's most unpardonable sin.

"The captain called that he would send a boat. It came alongside presently, in command of the mate." From a sketch by the author.

Most of us don't have to go to sea, but if we choose to run from Martha's Vineyard to Porto Rico or to make any other long sea voyage aboard a small boat in the worst month of the hurricane season, then let's try to be true to the best traditions of the sea. We had better think about our wives and children before we sail. Afterwards, I asked my Bermudian sailor, Quinton Nearon, what he would have said if I had decided that I was too worn to go and had decided to leave *Mary*. He answered, "I wouldn't have left her if I could help it, sir. I'd have tried to fetch her in."

No, we were not tempted in the least. The *Neuwerk's* boat went back to get some gasoline and a coil of rope, and I wrote a couple of radios for Quinton and myself, and a letter to my wife, then got a time check on my chronometer. The boat returned, bringing 35 gallons of gas in some spare tins I had, and a coil of tarred hemp rope, as they had no manila stuff. The hemp could not serve as halliards because it would not run through the blocks, but we could use it for life line, topping-lifts, etc. The radio operator came back with the boat and promised to get off the messages immediately, relayed from Bermuda. He brought also a slip giving our latitude and longitude, which checked closely with my own: Lat. 29–24 N.; Long. 61–43 W.; distance to Bermuda 240 naut. miles, course, N. 42 W. True; distance to Porto Rico 690 miles, course, S. 22 W., True. The mate agreed with me that Porto Rico was probably the best bet as I might get driven off Bermuda again, or in bad weather have trouble to find and make it. The ship's boat returned, and I stood over within hail and thanked Captain Thomsen.

The hurricane sky that had looked so ominous while speaking the steamer was not followed by any serious disturbance. The breeze came N.E. and fresh, and our hearts were lifted with the sheets in the hope that we might really have got into the sweep of the God-given N.E. Trades. We took off the misshapen mainsail and bent on the old one, a smaller and lighter sail, but setting nicely. The old foresail was, I feared, scarcely strong enough for heavy squalls that might yet be encountered.

The next inconvenience was 24 hours of violent illness for me, during which time Quinton steered the boat. Whether from fatigue or a large ration of canned corned beef that had been kept too long in the heat after being opened, I was fearfully racked with colic and nausea. During this painful period Quinton became a fixture at the wheel, set there like a bronze statue of stoic endurance. Through the night I could see from my bunk the glare from the binnacle reflected on his immobile face, for it is easier on the eyes to take the hood off than to stare for hours on end at the slot.

I weathered it through enough to turn into the next afternoon. We then ran into a series of violent black squalls, and double reefed fore and mainsails. The wonderful jib hung on full, though badly streaked with green mildew. The wind hauled east, and E. by S. I did not steer the S. 22 W. True course, but stuck as closely as I could to S. by W., or even due S. (compass). It was impossible to calculate our leeway in those squalls that for the next five days bore down on us with deluges of rain about every two hours.

Mary, when on the wind, can be so trimmed as to sail herself without varying more than a half point, so long as the wind holds fresh and steady. She was now required to do this and she did it nobly for hours and hours on end. I sent Quinton below to sleep himself out, then having made sure that *Mary* was in proper trim to hold her course, lay down to rest. Everything was soaking wet, and steaming. It was smothering hot. The nights were pitchy, now

in the dark of the moon, but there would be constant flares of lightning from all quarters of the compass.

Our sailing lights had been shaken to pieces, but it did not matter, as the snapping of the slack shrouds would have quenched them. The black squalls marched up out of the east in a sort of rhythmic order, and howled through the rigging, while the torrential rain roared down on the decks, now beginning to leak. Everything below that could contribute to the medley of racket contributed. The feeble glimmer of light from the hurricane lantern on the gallows frame was drowned. Even the binnacle light from a battery got short circuited and expired. *Mary*, sailing herself with all hands below, crashed on her way through the Stygian murk, animated and guided by her valiant ship's soul.

Fatigue from long continued strain followed by a sharp attack of illness is a dreadful thing, especially when there is hard and responsible work to do. In some respects it is more trying than physical pain, because more weakening. Besides, it does not help you any to give up to pain; it goes on just the same. But the temptation to give in to fatigue, to sleep or rest inert and let things slide, is almost overpowering at times. If you happen to be in command, there is only your own moral force to oppose to it. No mate to kick you out and chase you on deck and set you to work. At such times there is always that poignant inner goad that bids you carry on at any cost. This roused me out every half hour to flash a torch into the binnacle and to determine that we were sailing our course. I did not think that the weather could get any worse, because it appeared to be merely rainy season weather out of its proper season. We were out of the tracks of ships, and the danger of getting run down was negligible. Nevertheless, a certain amount of vigilance was required, if only to make a blind guess at our speed and leeway.

This sort of bad dream continued for three days, when with an extra heavy series of thunder squalls, the low clouds began to break away. There had been no chance to take a sight since we spoke the *Neuwerk* except for the day I had been *hors de combat*, when at noon Quinton, of his own initiative, decided to try to profit by the crude tuition I had given him at different times. He managed to get a noon sight and to work it out, merely subtracting his altitude from good old 89–48, then subtracting the declination for 16 hours from that. I afterwards worked out the sight in detail and found a difference of only 25 seconds. I had taught Quinton how to get his latitude just in case of such a contingency, so that he would not find himself entirely adrift, and now he had made good on it.

But it now became imperative for me to fix our position. The reckoning was so "dead" by this time as to be putrid, so far as any calculating of speed and distance and leeway were concerned. And yet, for some reason impossible to explain, I felt sure that we had not gone astray.

The forenoon of November 1st was heavily overcast. But the glass had started to rise and at noon the clouds thinned enough for me to see the pale disk of the sun. Without the sextant telescope and without a shade glass I managed to bring it down to a poor horizon. The latitude worked out to 19°–23′. It clouded up again immediately afterwards. Then toward the middle of the afternoon some windows were opened in the heavy clouds. I started taking sights when the sun's altitude measured 21–55–30 and shot 14 of them as opportunity offered, Quinton reading the chronom. The eleventh was the best, fairly good, 18–23 altitude.

Working out our position, with the sweat pouring off me in rivers, I gave a yelp of joy. "Too good to be true," I said to Quinton. "Unless I'm crazy with the heat and if we can resuscitate the engine, we should sight the flash on the Morro at San Juan by midnight."

We turned to then on the engine. A valve spring had broken, and we changed it with infinite toil. Then there was no spark. The poor old thing had drowned. We located a short circuit in the distributor. Drying it seemed to do no good. We could not use the gas got from the *Neuwerk* for some reason — water or dirt or both — but we had a little of our own left, enough to kick us in. Our 16-h.p. engine is a two-cylinder four-cycle heavy-duty affair, requiring to be turned over with a starting bar. Taking turns, we heaved on this until our eyes bulged. I got disgusted, quit what seemed to be a futile effort and told Quinton to lay off. "You'll just exhaust yourself for nothing," I said, "and if the wind holds we can sail in almost as soon."

But the lad persisted in sticking at it. He wound that thing up for about half an hour, on a theory that the spark where short circuited might dry the connection. Evidently he managed it, for as I was examining the rudder the exhaust began to volley. Good old J. W. had, true to form, turned to.

There was now that period of eager suspense that even seasoned navigators feel at the end of a long voyage when hoping to make the landfall as promised. Darkness fell. The wind dropped light, then hauled dead ahead, so we lowered sails. The sea grew wonderfully calm. I had almost forgotten what a smooth sea looked like. The horizon was black all around but there were constant flares of lightning, bright as a flash of magnesium. Some stars looked out in the zenith, and I was tempted to take a shot at one. But there was no horizon line. At ten o'clock I went forward, Quinton at the wheel. It was very dark and murky and still, but I noticed a difference in the quality of the air. A faint puff came from ahead, and in that moment I knew that land was not far away. There was a faint elusive odor that was not the smell of the sea. It was sweet and balmy and pregnant with the aroma of vegetation. I walked aft.

"Quinton, do you smell the land?"

"Yes, sir. It smells good."

"All right. Go to it. South by west."

"South by west, sir."

I went below and flung myself on my wet bed in my wet pajamas. I had worn them for a week, and they got laundered on me, from a draw bucket of water poured over my head. We had both taken these bucket baths a couple of times a day since entering the Gulf Stream, but until quite recently I had undressed to do so.

Lying there, giving thanks to God, for now I felt sure that we were right, a curious fact occurred to me. If, indeed, San Juan lay dead ahead, then we had come straight to it since parting with the *Neuwerk* just a week ago. I had not steered the course they gave me, and I had, with a sort of intuition, shifted course as much as a point from time to time. For the last 24 hours it had been constant, S. by W. The last position, that afternoon, had not altered this, so that practically I had sailed, drifted and let *Mary* sail herself for 690 miles, seven days, on neither dead reckoning nor celestial observation, but by sheer guess. Call it that, if you like, or call it luck or intuition. Personally, I cannot claim any such seal or sea gull faculty. I prefer to call it something else, and that is divine guidance. Why should we human beings be denied the faculties of lower animals and birds and fish and reptiles? Whales roam the sea, returning in due course to their headquarters. Gulls wander thousands of miles and go back to the same rock to nest. Salmon and alewives thread their way through many waters, and at the appointed time head back and up into the same river where

(*Continued on page 108*)

Hard Learned Lessons

Fog and Wind and a Wise Old Sloop

By JOHN T. ROWLAND

IN a previous article I voiced a plea for nautical writers to tell about some of the things they have done wrong, and the job they had getting out of it, instead of always extolling their seamanship and godlike perspicacity. Everyone knows that the most exciting experiences we have are the result of error. Why attempt to hide it?

As if in answer to my prayer the very same issue of this magazine contained an article by my old shipmate in the Second Naval District, Alex Forbes, telling about a couple of busts his gang made in attempting to find Halifax last summer by a line of soundings. It was so much more interesting and instructive than the account of a perfect landfall would have been that the two things cannot be compared. So I feel that 4-Bs and I have started a new fashion, and strengthened in mind by his unconscious backing, it may be fitting to relate another chronicle of error and woe. If you find it amusing I shall not be disturbed.

This event took place on Long Island Sound a number of years ago. I was an undergraduate at Yale and owned a grand old centerboard sloop which had many of the qualities of the faithful family horse. Indeed, I have often thought that her name should have been *Bessie* instead of *Celeste*. She was built by a wonderful old deep-water shipmaster who wore brass earrings and long hair. She had a clipper bow and a long nose-pole and boasted a topmast as slim as a broomstick — but she was every inch boat. For years her occupation had consisted in bringing up my friends and me to be sailors. I kept her in commission all winter and used to play "Arctic explorer" by sailing her up to Greenwich (where my family lived) one week-end and back to New Haven the next. We had no engine and even if I had had the price I would not have allowed one in the boat. Some of our expeditions, it may be stated, were more real than play. But the old *Celeste* always brought us through in time for chapel Monday morning.

On this particular occasion we got away from the New Haven docks about noon of a beautiful Saturday in early spring. There was a light breeze out of the north and *Celeste* ghosted along down the harbor past West Haven and Savin Rock with all the grace of a stone boat. It was chiefly a matter of tide. Drawing only a couple of feet without the board, we did not hesitate to cut inside the breakwaters and trim the shore along to the westward; but before we had gotten past Savin Rock it shut in thick.

This held no particular terror for Mase and me; we would simply have given the land a little wider berth and let her go, but for the fact that a friend who had an 11:30 lecture intended to take a trolley to Milford and meet us there some time before night, which inconvenient arrangement necessitated our keeping contact with the beach.

The breeze grew so light that *Celeste* lost steerageway and we were obliged to trail a lead to estimate our course and speed with the tide. Unfortunately, we were on the last of the flood and it was not long before the line hung straight down. For a while we had recourse to the good old white ash sweep which did double duty as auxiliary motor and occasional spinnaker boom, but this was always less productive of headway than of muscle. However, we toiled on until we estimated from the bearing of the distant horn on New Haven breakwater that we must be somewhere in the neighborhood of our port. Mase then made the valuable suggestion that he row ashore and find out where we were. It seemed like taking an unsportsmanlike advantage of Nature, but as we pictured Larry waiting disconsolately for our appearance with the beans we finally decided that it was the best thing to do.

"Suddenly *Celeste* made a wild yaw and shot up into the wind."

Mase shoved off in the dink, under orders to ascertain our position and return. I agreed to sound the fish-horn at suitable intervals until he reappeared. I anchored at once and proceeded to boil the kettle for tea. When some 15 minutes had elapsed I noticed to my surprise that the old sloop was commencing to bobble. Stepping out into the cockpit I found a fresh young breeze coming in from the east; its sound had been drowned by the roar of the two-cylinder blue flame coal oil heater over which we allegedly cooked.

This did not look very good and I wondered if Mase would have any trouble getting back. By this time he had probably no more than gotten ashore, but I commenced to sound the horn in the hope of stimulating his efforts. The beach lay practically to leeward, though its nearest point was somewhat to north of west. At least, that was the direction in which Mase had vanished into the fog.

Rapidly the breeze picked up. At the end of half an hour I had to give the hook more scope. Soon it was necessary to veer out the entire 150 feet of rode to keep the old girl from taking her anchor ashore. An hour passed and still no crew. It was very thick but blowing right

smart out of the east. As the minutes wore on something like panic threatened to engulf me, because it did not seem possible that Mase could be gone so long unless something tragic had occurred. The dink was very small and the sea by now pretty choppy. I pictured him washed up, a corpse, on the beach, and myself notifying his sorrowing family of his demise. It occurred to me that the shore might be farther away than we had thought and that he had gotten out of the range of my little horn. What a fool I was not to give him a compass in the boat! That one simple and obvious precaution would perhaps have saved his life, and I had neglected it merely because it was calm when he left. And now, worst of all, there was nothing I could do. Nothing but sit there straining my eyes into the blind, swirling mist, blowing myself purple in the face while the old *Celeste* bucked and bobbled in a head sea and her rigging howled mournful banshee notes in response to the rising gale!

It was very sad and, of course, quite unnecessary. *Celeste* being a centerboarder, we might have eased her in to shouting distance of the beach before shoving the landing party off, or I might have provided a compass, as stated above. Instead, I had let my crew go off, perhaps to his doom, and was in a not too wholesome situation myself. As the wind increased and hauled into the southeast, we got the full sweep of the Sound and the old sloop began to shove her bows under. I saw it would soon be necessary to give her the second hook, with the chain, and once that was down we would be there for duration — unless we dragged ashore.

Neither alternative was exactly pleasing. It did not fit with our plans. Fog or no fog, I decided we should hunt a harbor and, if possible, try to find our shipmate on the way.

I might not have tackled it in another boat, but *Celeste* was such a sagacious old girl I knew she could be relied upon to help. She had gotten my brothers and myself out of all sorts of scrapes, steering herself into Chesapeake Bay while we were all sound asleep and, on another occasion, driving ashore in a gale upon the one bit of soft ground for miles either way, not to mention the scores of times she had found her way home with very little help from us. The gas buoy east of Little Captain's Island seemed to exert for her an unfailing attraction. I did not want to go that far just now, yet the time had surely come to run for shelter.

It was the work of only a few minutes to make sail. While the big mainsail thundered and slatted I ran forward and backed out the jib. She swung off on her heel, laid her lee rail down and started shorewards with a rush. When I saw the anchor rode come taut I ran aft and put my stick hard down and spun her about. A hitch the other way brought her right over the hook. I ran forward and hauled in the slack. That anchor had taken a death hold of old mother earth and the cable nearly jerked me out over the bows, but I caught a turn just in time and then good old *Celeste* did her stuff. He bluff bows leaped skyward over a steep, frothing crest and yanked out Mr. Anchor like a small boy's tooth. I hauled it up and catted it, backed the jib out again and got her off, and then ran aft and more or less fell into the cockpit and grabbed the stick. It was a few minutes before I could get my wind sufficiently to see.

We were boiling in towards the beach again (on the starboard tack with the wind at E.S.E.). With the main sheet started off a bit *Celeste* took care of herself while I scanned the water ahead and a-lee. All at once it began to sprout rocks. We dodged them, and with one hand on the centerboard pennant I edged her in till I could actually see the surf on the shore. It was, if anything, nearer to where we had anchored than I expected and more than ever it seemed strange that Mase had not come back. I half expected to see the little boat bottom up in the surf. Following this line of thought, the rather wild idea occurred to me that by trimming the beach for a couple of miles each way I would be sure to find the dink at least. This part of the coast is made up of sandy beaches, more or less crescent shaped and separated by jutting, rocky points. There are also a number of handsome reefs. One thing alone was in our favor: there was swell enough to show up all the rocks.

We hauled on our wind and started off up shore. The water grew shoaler and the sea correspondingly tall and steep. Between trying to keep the beach in sight and the *Celeste* off bottom we had rather a lively time. To make matters worse I did occasionally see a boat that might be ours, hauled up above high water mark. In trying to get close enough to make it out we had two or three narrow shaves. Once the centerboard came half way up the trunk and it looked as if we were gone, but the old sloop managed to eat her way over the shoal spot and get out to windward again. It was exciting work and the time passed very quickly. All at once we raised a rocky point out of the mist ahead and had to tack ship in a hurry to avoid piling up. I had a vague idea where it was, but nothing more. However, by the time we had sailed to its end the beach was out of sight astern.

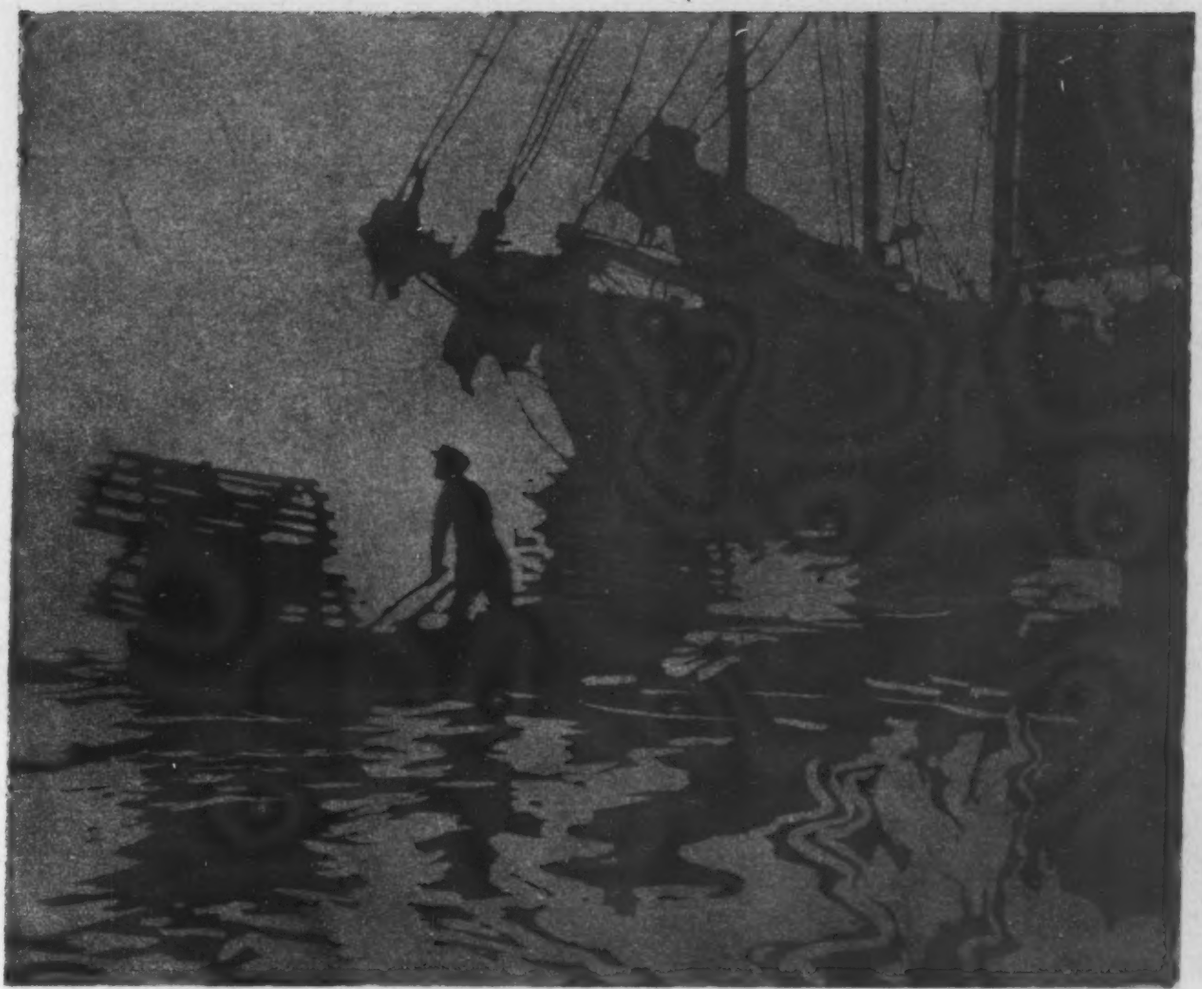
It seemed to me that we had reached the eastern limit of our patrol. On the other tack we had the wind over our quarter; the boat was carrying full sail and the wind by this time blowing pretty fresh. She started off at such a rate that I knew we could never miss any rocks if we came upon them in the fog. And it dawned upon me that even if we saw our dink on the beach there was nothing we could do about it, *Celeste* and I. The general idea had been that I would anchor her and swim ashore to view the remains, but it was now too wicked even for that. The old boat exhibited a wholesome desire to luff and spill the wind, so I flattened the jib down and let her take herself along while I rested a bit and tried to make a plan. She sailed herself very nicely like that, with the mainsail backing in the luff and no great strain on her gear. And she went nearly as fast as though everything was drawing hard.

Suddenly it occurred to me that I had pursued the wrong course. The sensible thing would have been to get into a harbor and then come back along the beach on foot. Milford, where we were bound, must lie only a short distance to the West and would be the ideal base from which to search. But how to find it? I was greatly disappointed that my fragmentary views of the beach had failed to show me where we were.

I brought my chart out into the cockpit and studied it, trying in vain to find something for which I could shoot that would not land us in a mess in case we miscued. It was very awkward because by now we had no point of departure at all. The afternoon was past and soon it would commence to grow dark. I had hoped as the wind increased that the weather would clear somewhat, but it did not. Of course, the wise thing so far as my own safety and that of the boat was concerned would be to go about and reach back for the shelter of New Haven Harbor, but that would mean abandoning the search for my friend.

Meanwhile the old boat was sagaciously working out from the beach while she jogged west. One had no need of the lead to see that we were in deeper and much better water. But that, while comforting, did not get us anywhere. I was at my wits' end. Suddenly *Celeste* made a wild yaw and shot up into the wind. I looked and saw to my amazement that she was heading straight for a red spar buoy just looming out of the mist. The old girl lay

(*Continued on page 96*)



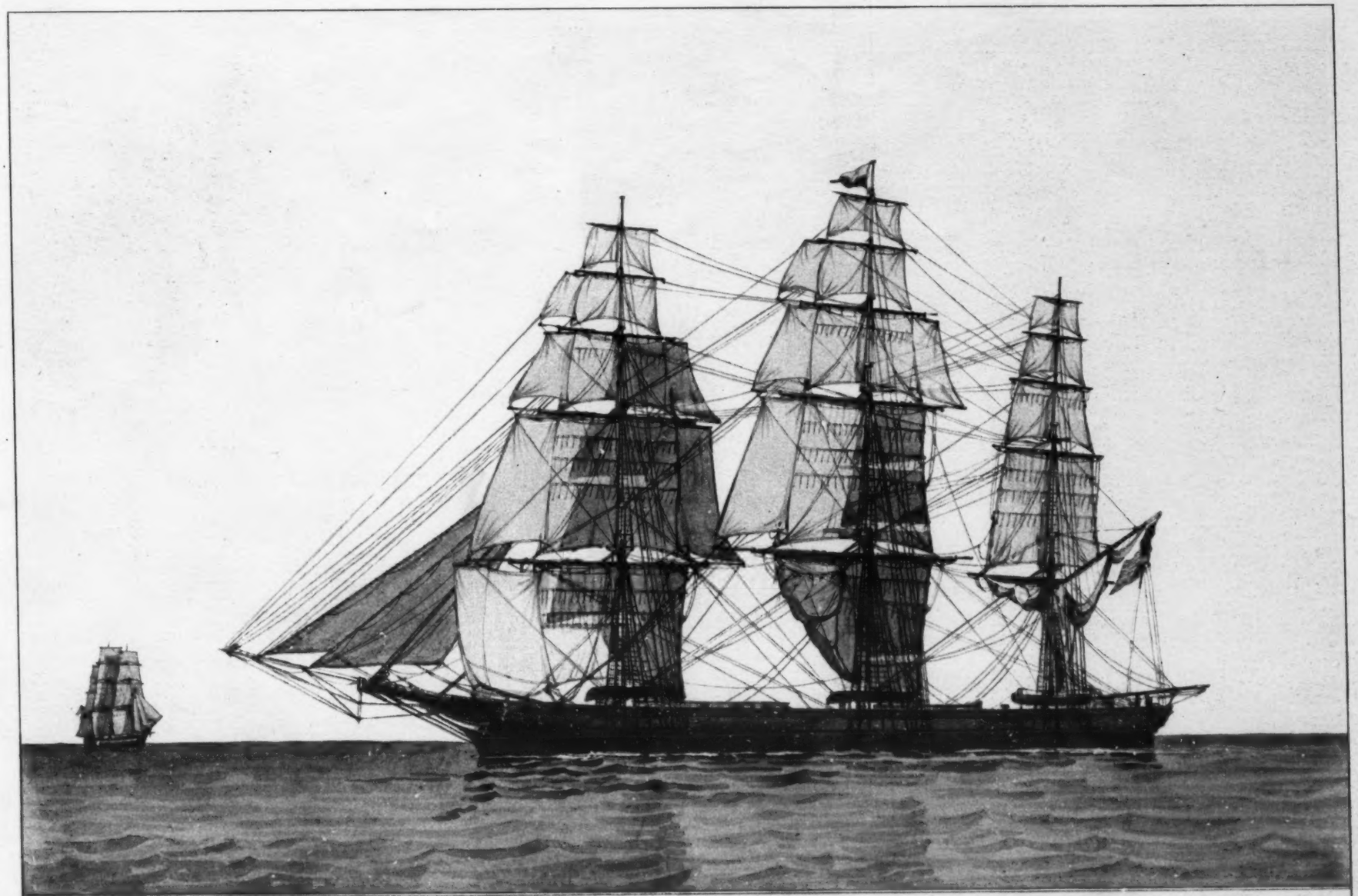
LOBSTERMAN AT DAWN.

An aquatint by Philip Kappel, whose work among the fishermen of the New England coast is well known.

(Courtesy of Schwartz Galleries)

AIRING SAILS.

An early morning scene in Gloucester Harbor, by J. J. Tapley.



Clipper Ship Nightingale of Boston
1851

(Courtesy of Charles E. Goodspeed & Co.)

A lithograph of the clipper ship *Nightingale* by George C. Wales, some of whose work

Baby Olds, the winner of the first long race for outboards from Albany to New York. She negotiated the 133 miles at the average speed of 29.8 m.p.h., driven by E. D. Widegren, a novice.

Whooping It Up Down the Hudson

Flashing Outboards Make Startling Records for Speed and Endurance in Albany-New York Time Trials

By SAMUEL WETHERILL

ANYONE seeking sensations on the water need look no further than the outboard motor boats. For the past couple of years they have been astonishing sailor and landsman alike with their startling speed. Only recently, one of them was put over a ski-jump (in the water) with no damage to boat or motor, and another was run high and dry up a shelving bank, likewise without harm. As an indication of what we may expect before the present season is over, a large number of the saucy craft dashed 130 miles down the Hudson River in April, from Albany to New York, proving not only that the outboard has speed galore, but that it can easily maintain that speed over a long course through brisk winds, rain and sleet.

The Albany-New York Time Trials took place over two week-ends — April 14th and 15th, and April 21st and 22nd. The conditions of the contest allowed the boats to start at any time between 6 and 9 A.M. on any or all of these days, there being no limit to the number of times an entrant could try his luck. Several drivers covered the course twice, and one did it three times, bettering his time on each successive trip. The trials were limited to boats powered with Class A, B, and C motors, with a special prize offered for the best time made by a Class D motor.

April 14th and 15th

As told in YACHTING for May, a fleet of some 20-odd starters crashed the line off the Albany Yacht Club in the gray of the morning of Saturday, April 14th. A faint breeze was blowing, and there was a hint of rain in the air. A few boats dropped out before the checking station at Poughkeepsie had been reached, and some more fell by the wayside later on. But 14 drivers persevered, and though bothered by rain and rough water, finished off the old Dyckman Street ferry slip in excellent time. Kirk Ames, in *Baby Whale*, was the first to flash across the finish line in the remarkable time of 4 hrs. 44 mins. 10 secs., or 27.9 miles an hour. C. P. Stevens, in *TNT III*, and H. R. Maddocks, in *Baby Whale II*, checked in almost half an hour later, having run almost a dead heat, Stevens taking second place by just two seconds. The 11 others came through at scattered intervals, one boat taking over 11 hours, due to motor trouble, running aground, etc.

In Class B *Miss Atlantic*, driven by J. E. Wilkinson, made a fine run in 6 hrs. 11 mins. 26 secs., being the sixth boat for the day, well ahead of many of the Class C craft. *Sea Sled*, driven by J. L. Chapman, led the Class D contestants in 8 hrs. 13 mins. 42 secs.

Miss Atlantic, driven by J. E. Wilkinson, won the YACHTING Trophy for Class B motors in the fast time of 5 h., 19 m., 32 s.

A lithograph of the clipper ship *Nightingale* by George C. Wales, some of whose work (Courtesy of Charles E. Goodspeed & Co.)

C. P. Stevens, Jr., driver of *TNT III*, after his long run of 133 miles.

A fresh nor'west wind kicked up a nasty chop on the following day, and only six starters took a chance. Of these six, three finished, Smith & Henson's *Miss Richmond* leading with an elapsed time of 7 hrs. 36 mins. 37 secs. That 50 per cent of the starters should finish at all in conditions which would have tried far huskier craft is an eloquent tribute to the ability and reliability of both hulls and motors, and the drivers, motor manufacturers and boat builders are to be congratulated on this fine performance.

April 21st

Fair weather and smooth water greeted the starters on the third day of the trials. Around 30 craft came to the line this time, most of them newcomers, while some were taking their second cracks at the record. Most of the experts agreed that *Baby Whale's* time of 4:44:10, made the first day, would not be equaled. And they were right, for the best record for the day went to C. P. Stevens on his second run in *TNT III*, who completed the course in 4 hrs. 52 mins. 51 secs., some 25 minutes better than he made on his first trip. J. E. Dunbar, in *Hiawatha*, was close behind with 4 hrs. 56 mins. 10 secs., while Victor Withstandley, in *Flying Fish III*, checked in third with 5 hrs. 02 mins. 46 secs. In all, 14 craft finished by nightfall.

Honors in Class B again went to *Miss Atlantic*, which came through on her second trip in 5 hrs. 19 mins. 32 secs., almost an hour faster than in her first effort. J. Thurber, in *Kid U*, was first in Class D in 5 hrs. 03 mins. 49 secs.

Due to the river being at a lower level than on the previous week-end, quite a number of boats fetched up on mud flats and sand-bars, while sheared pins and bent propellers were numerous, due to excessive driftwood encountered at different stretches along the course.

April 22nd

As a fitting climax for the four days of racing the real thrill was reserved for the last day. After shoveling an inch or so of snow out of their craft, nearly two dozen courageous drivers limbered up their motors and started out in a steady drizzle that became a downpour, which followed them all the way from Albany to New York. Under these disheartening conditions it seemed that the record hung up by Ames on the first day was in no danger whatever. But alas for the prophets! Favored by smooth water, C. P. Stevens, driving *TNT III* down the course for the third time, breezed across the finish line in the lead of the fleet, with an elapsed time of 4 hrs. 33 mins. 18 secs., some 11 minutes better than the best previous time. But Stevens' triumph was short-lived, for a little later along came Earl D. Widegren, driving a dark horse, *Baby Olds*, having negotiated the distance in 4 hrs. 27 mins. 30 secs., some 6 minutes better than the time made by *TNT*, a speed of 29.8 miles an hour for the course. Seven other craft finished, all under 8 hours, but none came anywhere near *Baby Olds'* time.

In Class B, T. Roberts in *Baby Playmate*, came in in 5 hrs. 56 mins. 07 secs., and N. Prosser, in *Century Kid*, some 12 minutes later. Neither equaled Wilkinson's time in *Miss Atlantic*, made the day previous.

The victory of Widegren in *Baby Olds* is the more remarkable when all the circumstances are known. Two days before, on a trial run, *Baby Olds*, improperly ballasted, took a ferry boat's wash on her quarter while at full speed and capsized. The cold water on a hot motor cracked the base of the motor, and *Baby Olds* looked like a dead infant. But Widegren hustled around, got hold of a brand new, stiff motor, and started to tune up again. A balky throttle control caused him to crash into a float at the Albany Yacht Club, starting a leak in the hull. Nothing daunted, Widegren, making his first start in an outboard race, drove his boat down the unfamiliar course in the driving rain, bailing water with a hat and a shoe, finally eclipsing the best time made by veteran drivers with tuned-up outfits, and making a record which next year's contestants will have a hard time breaking.

Following are the prize winners:

Baby Olds, Earl D. Widegren, $500 cash prize offered by Haynes-Griffin for the best time made in the four days of racing.

Baby Whale, Kirk Ames, $100 cash prize offered by Haynes-Griffin for the best time made on the first day of the contest.

Miss Atlantic, J. Everett Wilkinson, YACHTING Trophy for best time made in Class B.

Kid U, J. Thurber, Elto prize for best time in Class D.

TNT III, C. P. Stevens, second time prize.

Baby Whale, Kirk Ames, third time prize.

The trials were sponsored by Haynes-Griffin, and run under the guidance of the following advisory committee: Commodore William Eldridge, of the New York Outboard Motor Association; Herbert L. Stone, Editor of

Theodore Roberts, in *Baby Playmate*, second in Class B.

YACHTING; Charles H. Hall, Editor of *Motor Boat;* Gerald T. White, Editor of *Rudder;* F. W. Horenberger, of *Motor Boating*. Commodore Ralph Goetchius, of the Regatta Circuit Riders Club, officiated at the Poughkeepsie checking station. The officers of the Albany Yacht Club deserve every credit for their whole-hearted coöperation at the starting point, providing every facility for the contestants and committee, and being of great assistance to the starting committee.

TNT III, first boat to finish on April 21st, and a close second to *Baby Olds* on the last day of the trials.

Some Random Notes

All the boats carried auxiliary gasoline tanks, holding between 20 and 30 gallons of gas. Several boats used something over 20 gallons, while a few used less. Some used pressure feed, operated by a hand pump, for transferring the gas to the motor tank. Others used the Autopulse system, while at least one used both. Several motors were equipped with tachometers.

Bilge pumps were few and far between. Many a driver finished wetter and wiser than he started. *Miss Atlantic* stopped at Poughkeepsie on her first trial to buy a pump. Widegren bailed with an old cap. Others finished nearly awash. Some swamped.

Baby Olds was the only boat in which any effort was made to stream line the hull above water, and, we believe, the only boat with longitudinal steps.

The light step-planes made the fastest time, but when it came to rough going, on April 15th, the husky boats, such as Sea Sled, Lyman and Non-Capsizable, proved their worth by being the only ones to finish, and were worthy competitors in smooth going besides.

Twenty-Rater *Barbara* Goes to Lake Ontario

THE Class R sloop, *Barbara*, designed by John G. Alden, of Boston, and built in Germany in 1925 for Clifford D. Mallory, of the Indian Harbor Yacht Club, on Long Island Sound, has just been purchased by Commodore Francis D. Culkin, of the Oswego Yacht Club, and has moved from salt water to the fresh water of Lake Ontario.

Purchase of this craft marks the heralded return of the Oswego Y. C. to an active place on Lake Ontario, and for the first time its burgee will be seen in the series for the Silas L. George Cup, the Class R championship trophy of the lake. *Barbara* will be entered as a challenger for this cup at Rochester the last week in July. Further than that the new owners propose to enter her in the Lipton Cup races, for the Lake Yacht Racing Association regatta, to be held at Oswego August 1st, 2nd and 3rd. It is likely that Commodore Culkin will sail her with Dr. F. C. Abbott, of Syracuse, as a member of his crew.

Barbara is one of the longest boats over all of her class. She is several feet longer than *Kathea II*, which is to challenge for the George and Lipton Cups in behalf of the Crescent Yacht Club, of Watertown, N. Y. *Kathea II* will appear this season with a new spar and a new suit of sails. J. Wyatt Uhlein will again be at the tiller.

				Time			
Driver	*Boat*	*Builder*	*Motor*	*April 14*	*April 15*	*April 21*	*April 22*
Class C							
Earl D. Widegren	*Baby Olds*	Fairchild	Evinrude				4:27:30
Chas. P. Stevens	*TNT III*	Penn Yan	Evinrude	5:18:50 (*TNT II*)		4:52:51	4:33:18
Kirk Ames	*Baby Whale*	Kelly	Evinrude	4:44:10			
Al. Buffington	*Cute Craft Skeeter*	Cute Craft	Evinrude				4:55:39
J. E. Dunbar	*Hiawatha*		Johnson			4:56:10	
V. Withstandley	*Flying Fish III*	Airships	Evinrude	8:23:59 (Johnson)		5:02:46	
G. Jacobs	*Corker I*	Sea Sled	Evinrude				5:10:04
J. C. Smith	*Cnigh*	Non-Capsizable	Evinrude			5:17:32	
R. Laubly	*Spee-Dink*	Doane	Johnson			5:37:53	
H. R. Maddocks	*Baby Whale II*	Kelly	Johnson	5:18:52		5:37:38	
W. Burrhus	*No. 13*	Sea Sled	Evinrude	5:20:38			5:21:26
G. DeAngelis	*Weowna Baby*	Airships	Evinrude	5:23:50			
Arthur Davis	*Ja Da*	A. Davis	Evinrude			5:30:57	
C. Olsen	*O–34*	Non-Capsizable	Johnson	6:12:12			
F. H. Graveline	*Baby Tag III*	Cute Craft	Johnson	6:13:01			
J. Weingart	*XXX*		Johnson	7:27:59			
J. Wakeman, Jr.	*Miss Norwalk*	Sea Sled	Johnson			7:32:21	
C. W. Smith & H. Henson	*Miss Richmond*	Sea Sled	Evinrude		7:36:37		
A. H. Conklin	*Wheeler*	Wheeler	Evinrude				7:58:00
Otis Demarest	*Wheeler*	Wheeler	Evinrude				7:58:00
W. Allen Flower	*Cute Craft*	Cute Craft	Johnson	7:57:09			
E. Walsh & A. Pringle	*Lyman*	Lyman	Evinrude		8:59:54		
Class B							
J. E. Wilkinson	*Miss Atlantic*	Herbst	Lockwood	6:11:26		5:19:32	
T. Roberts	*Baby Playmate*	Wheeler	Lockwood	10:00:56 (Elto)			5:56:07
L. A. Hyde	*08–546*	Hyde	Lockwood			6:00:02	
N. Prosser	*Century Kid*	Century	Caille				6:06:00
K. P. Schenke	*N. C. Youngster*	Non-Capsizable	Johnson		8:14:29	7:03:13	
R. Oakley	*Baby Wing Foot*	Airships	Lockwood	11:37:59			
Class D							
J. Thurber	*Kid U*	Jackson Boat Co.	Elto Quad			5:03:49	
J. L. Chapman	*Sea Sled*	Sea Sled	Elto Quad	8:13:42		5:52:19	

Deep Water Sailing

Part V — Stores and Food

By E. G. Martin

On a long ocean voyage wear and tear seems to be far greater than it is for an equal distance of coastwise sailing. This is mostly due, I think, to the fact that the ship is scarcely ever really quiet, and to the large proportion of fair wind sailing. The worst time of all is, perhaps, when there is just enough wind to give steerageway but not enough to keep the sails quiet. The West Country fishermen say that one hour of "smanging about" in a calm does more harm to the gear than a gale of wind. If some of the gear is damaged in ordinary cruising one can make a shift which will answer until one reaches port, but for a long voyage on which no ports are available, the ship must be provided with far more gear than she normally carries. Some of these extras are:

1. Enough rope and wire to replace all the running gear, and some to spare, for, as we found, some of the ropes need renewing more than once, while others may not wear at all.
2. Spare canvas of weights suitable for repairing both heavy and light sails.
3. Plenty of sail twine, needles and palms, and marline.
4. Shackles and hanks, and a couple of big snatch-blocks may be very useful.
5. Old canvas for chafing gear.
6. Sheet copper and tacks.
7. Leather for chafing-gear or pump washers.
8. A large tin of petroleum jelly for greasing gear.
9. Fish oil, perhaps a 5-gallon drum, for use in bad weather.
10. Small oil bags, perhaps a dozen. A good pattern is shaped like an India rubber hot water bottle, about 9 in. by 5 in.
11. Spare mast hoops. It answers very well if two hoops are seized to each of the three lower eyelet holes in the mainsail. This is often done in fishing smacks.
12. Spare aerial wire and insulators.
13. Spare ear phones. In three pairs, five out of six of the ear pieces went wrong upon the outward journey. They were of different makes, and I did not find out the cause of the trouble, but the pair in use was kept plugged in. Homeward-bound, I kept them detached and shut up in boxes, and there was no trouble.
14. In hot climates a piece of stout canvas about six feet square is invaluable as a shelter for the helmsman.
15. Strong canvas covers for the hatches and skylights. Ours were made with a cord run through the bottom hem to act as a draw string. If the middle of the cord is stitched to the canvas the ends cannot be drawn accidentally into the hem. *Jolie Brise* had a large main skylight, and I had two loose boards made to go on the top of it for protection in bad weather. The canvas cover kept them in position. The covers for the foc's'le hatch and main companion-way were made so that the hatches could be used without taking off the covers, half the top and half the front being closed by a lacing instead of being sewed up, the edges being made to overlap.
16. At least three patent logs and lines. We had two taken away and one bent up, probably by fish.

Among the deck stores, shoes may be mentioned. In tropical waters the deck often becomes too hot for bare feet, and light cool shoes of some kind are wanted. Moreover, it may be necessary to wear socks to avoid sunburn, which may be really serious. I mention this because so many people like to go barefoot in fine weather and might forget to prepare for great heat.

Providing the ship with gear is a fairly straightforward business, but I found that the provisioning was a cause of great anxiety. I had no previous experience of a really long voyage, or of tropical waters, and it was difficult to get reliable information which would apply to a small boat. The first difficulty was to decide the time for which provision should be made. If all went well, we hoped to make the outward voyage of about 6,000 miles in from six to seven weeks. So much could be discovered from the records of voyages and information given in the North Atlantic Directory. The difficulty was to know what margin to allow. I decided to base calculations on full rations for ten weeks and a reserve of bare necessities to last for three months. In these days the southern route is a very lonely one, and it would not do to rely upon getting anything at all from other vessels if one ran short, though one might be able to do this when making the eastern journey by the ordinary route. The following are some notes upon food and supplies.

Water

The Board of Trade has decided that one gallon of water per man per day is the minimum amount which is allowable in any British ship. By this scale, for ten weeks, five men will require 350 gallons. At starting, with the tanks quite full, we carried approximately 435 gallons, with perhaps another 20 in various vessels for immediate use. I had originally fitted two galvanized iron tanks in the ship, each holding about 120 gallons. These were placed one on each side of the passageway at the foot of the companion ladder where the ship would carry the weight well. They were joined by a pipe with cocks for leveling purposes, and from this pipe ran one connecting it with a pump in the galley. In order to carry the extra ton of water, I fitted an oblong tank where the table stood in the middle of the main cabin, and a new table top was made to ship over it. This was the only possible place in which so much additional weight could be carried without spoiling the sailing trim of the ship.

Some years ago, when right in the middle of the North Sea in a 45-foot auxiliary ketch, three of us were left without any water. In a short time more than 100 gallons had been lost through a defective lead pipe connecting the tank with the tap in the galley. There had been no leak while we were in smooth water, so probably the motion when we got out to sea set up an intermittent pressure in the tank and so burst the defective pipe. Fortunately, the weather was fine, and by using the engine we ran alongside a steam trawler and got enough water to last us into port. It was a very unpleasant experience, and it made me determine that the new big tank should have no piping at all. A small semi-rotary pump was fitted on top of it, and when we wanted more water in the after tanks we replenished them through an India rubber pipe connected to this pump.

Before starting I bought a measure marked in quarts, and all the water was drawn in this and a tally kept upon a card on the fo'c'sle bulkhead. We thus knew exactly how we stood. We found that with care we could manage

very comfortably with an average of 35 quarts a day for all purposes, a saving of 5 quarts on our full ration. We kept to this for about two-thirds of the voyage after which we plainly had so much in hand that we used what we liked, within reason. At the end of the 48 days' passage we had quite 100 gallons left. The water which we took on board in the West Country was very soft, and this seemed to have some action upon the galvanizing in the new tank. At the end of the voyage the water in it looked slightly milky and tasted rather nasty, although it did not seem to do us any harm. Another time, I would make certain that the water in the tanks was hard, if necessary, by adding some lime.

All the drinking water which was not boiled was passed through a Berkfelt filter connected with the pump in the galley. These are splendid filters for use in yachts, for they are rapid in action, very compact, and most efficient. Occasionally one of the "candles" through which the water is forced might be broken when the filter is being cleaned, so that it is as well to take a couple of spare ones.

Writing of water reminds one of lime juice, of which the Board of Trade specifies a ration for British ships. The value of the regulation brand is that it is raw, and the juice is preserved by the addition of 15 per cent of rum or brandy. It would be useless to hope for any stimulating effect from drinking it, for the juice is so strong that most people find a small spoonful in a glass of water is enough. A doctor told me that the value of it is that the vitamins in the limes are not destroyed in this preparation, but that they are in all the ordinary fruit cordials, making them of little value as a substitute for fresh vegetables. It is very necessary to have as much fresh vegetable food as possible. We found cases of oranges most valuable, and took a generous supply of onions and potatoes, both of which keep very well in a dry, dark place.

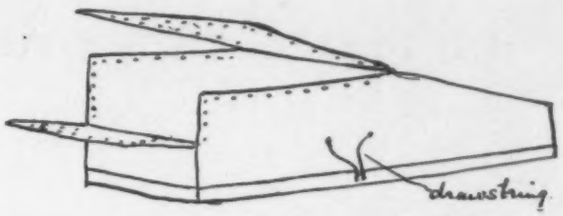
As for alcoholic drinks, I made no attempt to provide the ship with enough for a regular supply, but we had enough whisky, claret, and white wine to allow of an occasional drink, or a bottle of wine, with a meal; and we took two bottles of rum and two of brandy for use if needed. A bottle of brandy is, I think, almost the most essential thing in the medicine chest. It must be kept sacred, and I would not on any account go to sea without it. I have had to use brandy twice, in the past, in cases of real emergency. We had decided before starting that the ship ought to be dry while in American waters, and so when I thought, mistakenly, that we had reached them, I threw over one bottle of rum — all that we had left — and was justly reproached by my crew for undue haste. The medical brandy was declared on arrival and, as it happened, was really needed before we reached England.

Food Stuffs

We started with 200 lbs. of fresh beef packed in dry salt. The packing was entrusted to a butcher, on the supposition that he would make the best job of it. But he left both bone and fat in it, and after using about 50 lbs. of it we had to throw the rest away. So we had to fall back on our reserve of corned beef which, fortunately, lasted until we were within a day's sail of Montauk Point. I believe that fresh beef cut into pieces not more than an inch thick, and without bone and fat, would keep quite well packed in dry salt, but I think it would be wise to provide enough tins of beef to allow of more or less continuous use during a voyage.

Bacon is invaluable and, packed in dry salt, keeps perfectly. We took 70 lbs. — which was not enough. In future I would allow ½ lb. per day per man.

We took 200 lbs. of "self-raising" flour. This was too much. I think that about 6 oz. per man per day would be ample. Generally we baked every other day. We had also



Canvas hatch cover showing drawstring and lacing holes.

100 lbs. of ship's biscuit. Sometimes, in quiet weather, the men would make large quantities of "rock buns," little cakes with currants and lemon peel in them. We enjoyed these very much. If cake in any form is to be made on the voyage, a large amount of additional sugar must be taken. We ran out of it two days short of New York.

In calculating the amount required, it would be as well to find out how much the members of one's crew generally use, for people vary very much in this. Provision should also be made for cooking large quantities of prunes, apple rings, etc. Fruit of some kind should form a part of every day's fare. In the Tropics we used to stew plenty of prunes over night and eat them before or at breakfast time. It is difficult to suggest an exact figure, but I think I would allow ¼ lb. of sugar per man per day, largely for use in stewing fruit. When every one uses sugar in tea, coffee, and lime juice, the quantity soon mounts up.

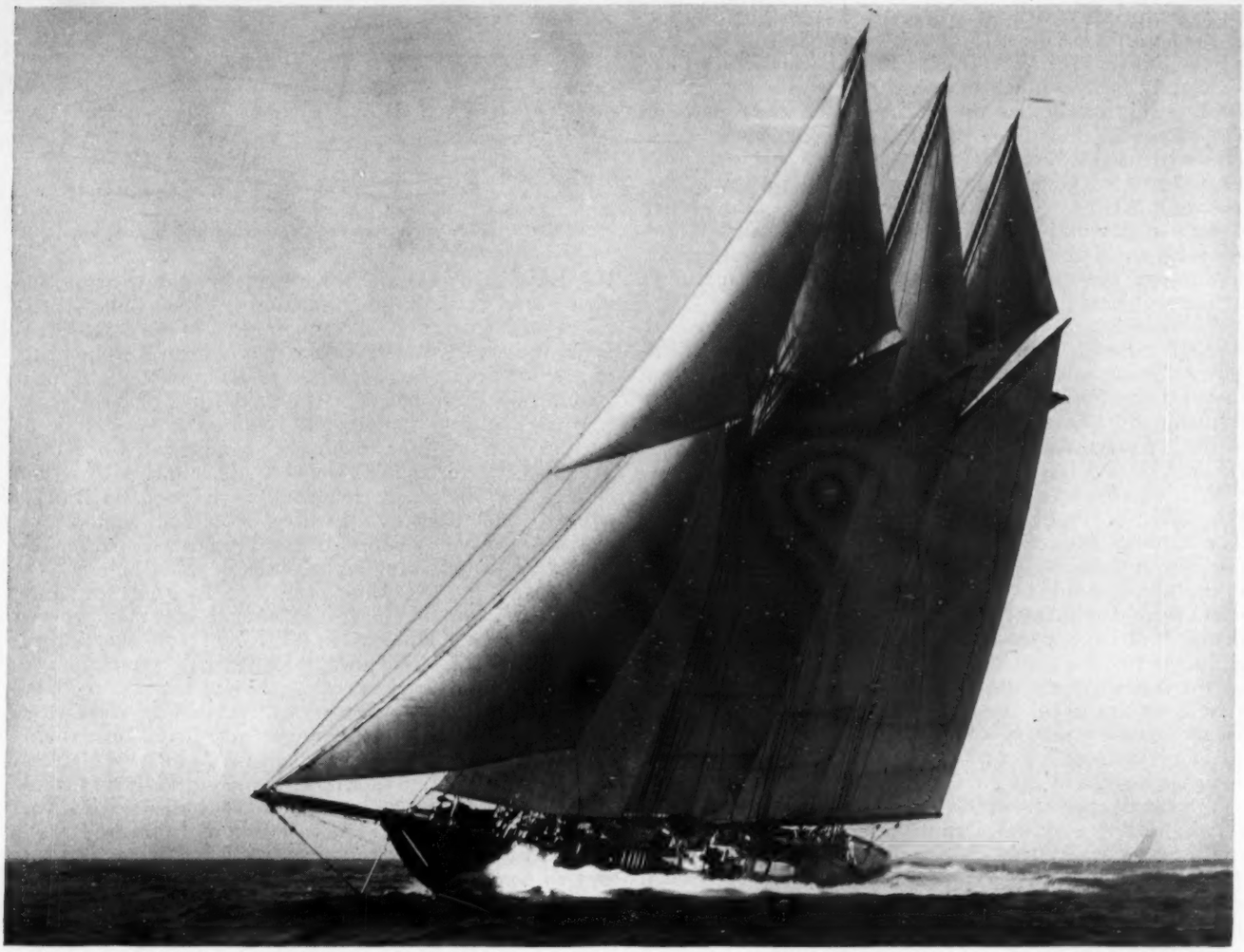
We started with 15 dozen eggs. I did not take more because I was uncertain whether they would keep good. However, we found only one bad one, and that was probably bad when packed. We ate the last two, which we had kept as an experiment, in Larchmont Harbor, 52 days, I think, after sailing from Falmouth, without discovering that they were not fresh eggs from the shore. In future I would allow two eggs per man per day for a voyage of any length, and some over for cooking.

We took 60 lbs. of fresh butter, and a 10-lb. tin which was never opened. On the homeward voyage we used Golden Seal tinned butter, which was very good, but not so nice as the fresh butter packed in salt. I think that ¼ lb. of butter per man per day is about right. The butter was specially made at a Cornish farm house and was wrapped in butter muslin.

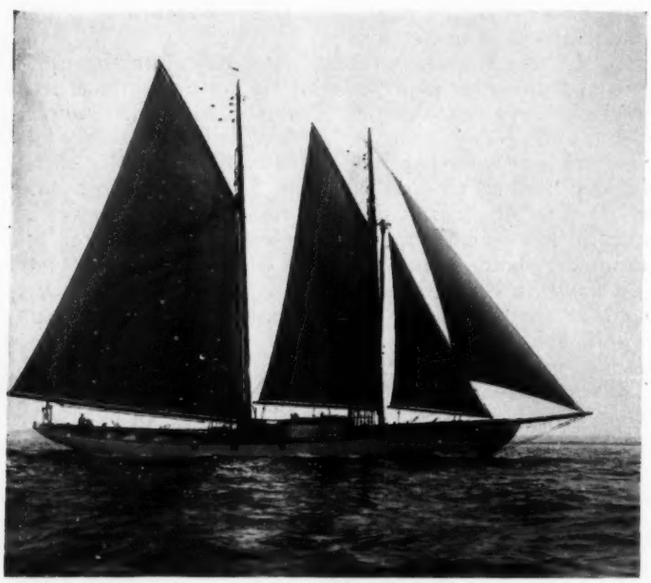
As I have stated, our beef went bad, but the eggs, bacon, and butter kept perfectly, in spite of at least five weeks of very hot weather. The plan used is so simple, clean, and economical of room that I would strongly advise any one who has not already found a really satisfactory method to give it a trial. I bought 8 large jars, made of tough glass, such as are used for accumulators in electric light plants for private houses. Ours were rectangular, about 12 in. high by 8 in. by 10 in., but they are made in different sizes. Those I bought were being sold for use in pickling eggs in water glass. One of them would hold about 200 eggs, carefully packed in salt — an astonishing number, considering the space occupied. The eggs should be procured absolutely newly laid, if possible, and should be thoroughly greased all over with lard. The salt is bought in large oblong blocks and can quickly be scraped to a powder with one of the graters used for making bread crumbs. A layer of about one-half an inch is spread evenly over the bottom of the jar, and the first tier of eggs laid on this. Then salt is poured over them, until all the crannies are filled and the eggs covered, and so on. The plan is very good aboard ship because, once packed, the eggs cannot get broken and there is no mess whatever.

The butter was treated in exactly the same way, wrapped in its b utter musli n, which prevents any salt

(Continued on page 118)



The schooner *Atlantic*, winner of the last Transatlantic race, of 1905, when she made a record of 12 days, 4 hours and 1 minute, is the favorite in this year's event, which starts July 7th. She is now owned by Gerard B. Lambert, and is completing her fitting out at City Island.



Zodiac, another entry, owned by J. S. and R. W. Johnson, is an able yacht of fisherman type, that should give a good account of herself in a breeze. She is having topmasts fitted at Gloucester for the race. At right: The bark *Aloha*, owned by Arthur Curtiss James, is the largest entry in the race. She has crossed the Atlantic many times, and with leading winds of good strength may be counted on to make a fast passage.

All Ready for the Transatlantic Race to Spain

A Fine Fleet, Composed of Some of the Largest and Fastest American and Spanish Yachts, Preparing for the Start

By WILLIAM U. SWAN

WITH the entry of yachts flying Spanish colors in both major and minor classes, the ocean race this summer for the King Alfonso XIII and Queen Victoria Cups will be much more of an international affair than was at first anticipated, while the royal entertainments which will follow the termination of the contest will be extended not only to the amateur mariners, but to those less daring Americans who will follow the yachts on a Spanish steamer making a special trip direct from New York to Santander. It is quite probable that those on the steamer may see something of the contest on the way over.

A baker's dozen of able craft were on the rolls of the Spanish Ocean Race Committee when it held its spring meeting in Washington on May 1st, the only withdrawal being the little schooner *Diablo*, which failed to start from Los Angeles early in April as had been anticipated.

Three new boats were entered during the spring. The first of these was the steel schooner which Cary Smith designed for the German Emperor and which Alice Roosevelt christened *Meteor II* in the presence of Prince Henry of Prussia at the launching from Townsend & Downey's yard at Shooter's Island, N. Y., in March 1902. The yacht was subsequently purchased by Prof. D. R. C. Harris, of Berlin, and renamed *Nordstern*, being turned over to the Kaiser Deutsche Marine at the outbreak of the war. She was secured some weeks ago by J. Echevarrieta, a well-known Spanish yachtsman. She is 161 feet over all and 120 feet on the water line. It is likely that she will be given a Spanish designation for the race.

During April a coterie of Spanish amateur yachtsmen negotiated for a smaller American-built schooner which they will sail in the Queen Victoria Cup class and which will bear the name of *Santa Maria*, completing the Columbus trio, as the *Pinta* (formerly the *Nicanor*) is fitting out at City Island for William J. Curtis, of New York, while the *Nina*, which will fly the colors of Paul Hammond, of New York, was launched at Monument Beach, Mass., on April 21st.

The third of the mid-spring entries was the bronze schooner *Azara*, another Cary Smith and Townsend & Downey production of the vintage of 1904, and which after bearing the names of *Oriole III*, *Lady Mary* and *Wamaloam*, found her way to the Great Lakes. She will carry the colors of George F. and Francis Baker, of the Detroit Yacht Club.

At the May meeting of the race committee it was announced that the official distance for the race for both classes is 3,055 miles, from the Ambrose Channel Lightship, off the entrance to New York Harbor, to Mouro Island, just outside of Santander, taking the great circle, which passes fairly close to Sable Island. It is expected, however, that most of the yachts will take a more southerly course in order to secure more favorable winds and avoid the ice fields.

The smaller craft, between 35 and 55 feet water line, will be sent away at noon on June 30th, with the usual preliminary signals of ten and five minutes before the start. These yachts will sail on a rating similar to that used in the Bermuda Race the week before, but without a propeller allowance. They can lug all the sail they want.

The larger yachts will leave exactly a week later and will sail flat. It is expected that they will overhaul the little fellows somewhere off the Bay of Biscay.

All the yachts will carry numbers and private signals and will burn green, red and green lights on crossing the finish line at night.

The race committee of the New York Yacht Club, composed of Gherardi Davis, Clinton Mackenzie and Edmund Lang, will start the boats, while at the finish will be the Spanish Race Committee, made up of Victoriano Lopez Doriga, president, Enrique Careaga, and Eduardo Ubao, secretary.

Entries for the Queen Victoria Cup will close at the New York Yacht Club on June 23rd, but the books for the yachts for the King Alfonso XIII Cup will remain open until July 5th, two days before the start.

The following is a list of entries, as of May 1st, for the two cups:

KING ALFONSO XIII CUP

Rig	*Yacht*	*Owner*	*Residence*	*Over all*
Bark	*Aloha*	Arthur Curtiss James	New York	218′
Schr.	*Dauntless*	H. Wilmer Hanan	New York	200′
"	*Guinevere*	Edgar Palmer	New York	195′
"	*Atlantic*	Gerard B. Lambert	St. Louis	185′
Brgtn.	*Cressida*	Herman Oelrichs	New York	172′
Schr.	*Meteor III*	J. Echevarrieta	Madrid	161′
"	*Speejacks*	Albert Y. Gowan	Concord, Mass.	127′
"	*Zodiac*	J. S. & R. W. Johnson	Newark, N. J.	126′
"	*Azara*	G. F. & F. Baker	Detroit	113′

QUEEN VICTORIA CUP

"	*Nina*	Paul Hammond	New York	60′
"	*Mohawk*	Dudley F. Wolfe	Boston	60′
"	*Pinta*	W. J. Curtis, Jr.	New York	58′
"	*Santa Maria*	Spanish yachtsmen	San Sebastian	55′

British Yachting in 1928

THE chief interest in British yachting this year will center around the big class of yachts. This class will comprise the large handicap yachts which have been racing for the past few years and which include the ex-23-metre cutters *Shamrock* and *White Heather*, the old *Britannia*, modernized in rig, the American schooner *Westward* and the *Lulworth*. These craft have raced with more or less success on handicap terms, based on form or, in other words, on the number of first prizes they win.

In all round weather, boat for boat, the *Shamrock* has been the most consistent winner, but on days with plenty of wind and sea the *Britannia* generally manages to lead the fleet home if there is windward work, closely followed by *Lulworth*. But if, as frequently happens on the Solent, the race is mostly reaching, then if the wind is strong enough it is a walk-over for *Westward*, and if there is little or no wind *White Heather*, with her larger sail spread, manages to keep the lead if she is fortunate enough to get it. If the races had been sailed on Yacht Racing Association time scale, then *Shamrock*, the smallest rated yacht of the class, would have won most of the prizes. This would have spoiled the class and probably dissolved it.

This season will see a great change and the yachts will have to race on Y. R. A. time allowance scale, on the actual rating of the different yachts, by reason of the two new 75-footers being built to race in the class this season. One of these yachts is being built at the Fairlie Yard of our leading Scottish yacht designer. She is to be called the *Cambria*, and the other, the *Astra*, is being built at Gosport, to the design of Nicholson. It will be very interesting to see which of these yachts is the better, and their advent will help greatly to add interest to yacht racing 'round the coast of the British Isles, and one will be able to see how much the designers have learned in the last twenty years. These two new

(*Continued on page 120*)

On a small yacht which is so lively at sea that one has to hang on to keep his balance, the taking of accurate sights is difficult.

Small Boat Navigation at Sea

Some Helpful Hints for Those Without Experience in Taking and Working Sights from a Small Yacht

By HERBERT L. STONE

WITH the ocean race to Spain, the Bermuda Race, and the Honolulu Race on the Pacific, all with good entry lists assured, it seems as if the navigator who has had experience in shooting the sun or the stars from a small boat, and who can say with reasonable certainty after he has worked up his sight where the ship is, will be at a premium. From the way it looks now, such a man will have no difficulty landing a berth on any of the competing yachts, if he is prepared to take the responsibility of finding his way to the finish.

Of course, there are plenty of good navigators among the yachtsmen, and many who are competent to take a vessel anywhere. But, here, just as in the professional ranks, there are many who have had no experience offshore in a small boat; and let it be understood at the outset that there is a vast difference between accurate celestial navigation from the deck of a bucking craft less than 40 feet on the water and from a large vessel where there is not only a steadier platform, but every facility for working up the sight with speed and accuracy after it is taken. Those who have never had experience on both classes of vessels cannot fully appreciate the difference. For this reason, even navigators who have had long experience in the merchant service or the Navy may, and probably will, have difficulty in getting sights from a small yacht on which they can rely, and from which they can stand in for a landfall — such as that at St. David's Head, Bermuda, let us say — with assurance. Many a man in the Bermuda Race has missed the Islands, or has seen his chances of finishing "in the money" go a-glimmering, just because he mistrusted his sights, or else "made a bust" on them.

One difficulty in navigating a small sailing yacht is that the dead reckoning is usually quite unreliable, and thus has but little value as a check against observations, and when, as is frequently the case, there is a wide difference between the two which cannot be accounted for, the navigator unexperienced in small boats is apt to distrust his sights. This, as a rule, is fatal, for a sight, even if a poor one, is much more reliable than a D. R. position which has been carried along for 20 or 24 hours.

Even with the best kept log, the compass course recorded on a racing yacht, where it is changed frequently to take advantage of every shift of wind, is not accurate. Add to this poor steering, especially at night, the tendency of the yacht to work out to windward on a reach in hard sailing, inadequate guesses as to leeway, and the navigator has enough to make him thoroughly distrust the log book. Besides, amateur watch officers seldom keep a complete and full log. So the navigator should check it constantly, insist that every change of course, however slight, should be noted and the log reading recorded, and see that the helmsman *averages* the course steered by bringing the ship back as far beyond the point she is on as she has yawed to the opposite side. This is difficult to do, but it can be done — and should be.

As to the best methods of celestial navigation to use on a small yacht under difficult conditions, it may be said that there is no "best." Each man should use the method with which he is most familiar. Some navigators prefer the Marc St. Hilaire method, some the De Aquino, some use the H. O. 203 tables, and some the old-fashioned time sights. Of these, the one that can be worked most readily by the navigator and the one in which he is apt to make fewest slips, is the best. On a small yacht there will at best be poor facilities for doing the work, and sights may have to be worked up on the cabin table, on the floor, or even sitting in the cockpit, with the Almanac, books of tables and azimuths, and the parallel rule or triangle sliding about with each roll of the ship.

It is, of course, preferable to use lines of position, and a plotting chart on which to lay them out. By this method one does not have to rely on getting a sight at a fixed time, such as when the sun is on the prime vertical, or

on meridian, though one should never fail to get a meridian altitude whenever possible. On the course from New London to Bermuda in June, one can thus get a sight between 7 and 8 A.M. in which the line of position will nearly coincide with the course being steered, or, if the sun bears approximately 90°, the longitude can be had quite accurately, and in a few hours the bearing of the sun will change sufficiently to get another line of position which will cross the first (carried forward but comparatively few miles) at a sharp enough angle to get a definite fix.

From a navigational point of view only, star sights are, of course, most desirable. But on a small boat they are difficult to get unless conditions are just right. With the ship jumping, making it difficult for one to keep his balance, it is hard to find your star with the telescope and bring it down to the horizon accurately, especially as these sights are made at twilight when the stars are still dim. If, in addition, any water is flying, it is well-nigh impossible to get a satisfactory altitude. Still, if conditions are right, the stars should be worked, although several "busts" in the Bermuda Race have been directly attributable to poor star sights.

In almost any sea the deck of a small yacht is so close to the water, and the height of eye so low, that the horizon at one moment may be ten miles off, and at the next but a few feet, as the ship gets in the hollow between two waves, or as a sea or swell shuts out the true horizon. For this reason the contact should be made when the yacht is on the top of a sea. Even then, a sea may rear up in the near foreground and shut out the real horizon. Care should be taken to watch for this. Again, one may just be on the point of making contact when he is thrown off balance by the motion of the ship, and the sight spoiled, or he gets a dash of spray in the face that ruins everything. Always get as high as possible on the yacht when taking a sight, and in a sheltered spot if possible. Get well braced to preserve your equilibrium and have a handkerchief handy to wipe off the mirrors, telescope and arc of the sextant. You will find it handy to use a stop watch for taking the time, rather than a common hack watch. For quick work it is sometimes an advantage not to use the telescope of the sextant at all.

If the horizon is blurred, or hazy, and the sea rough,

With an obscured horizon such as is frequently found in the Gulf Stream, sights become quite inaccurate.

several sights at short, regular intervals may be obtained, and if the Altitude change is comparatively even, it will be an indication that your sights are as good as it is possible to get.

Most yachts in the Bermuda Race will carry but one chronometer. If the boat has a wireless receiving set, a check can be had with Arlington each day. But a well-rated chronometer is not apt to vary much in the four or five days' run to the Islands if it is properly cared for. It should be carried in a place which is both handy and yet out of the way of the crew, who seem to love to

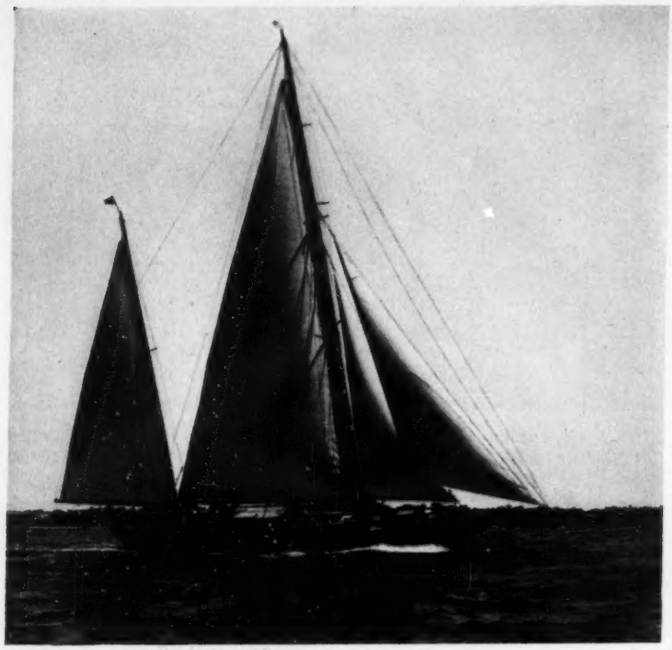
When in the trough of the sea in a small boat the horizon is too near for sights, as indicated in this picture. Contact should be made when the yacht is on top of a sea.

grab a chronometer box to steady themselves when going below in rough weather.

One difficulty of navigation in the Bermuda Race which will not be found in the Spanish Race, is in the Gulf Stream. Running to the Islands one crosses this body of water at approximately right angles, and the strength of the current is never known beforehand. It may be as low as one knot, or it may be considerably over two knots in strength. If one gets good sights during the crossing (which may take from 30 to 50 hours, depending on the wind) it is possible to get some gauge of its strength at that particular time, and an allowance can be made for this set. But if the wind is light, or if there is no wind at all, the yacht is apt to be set well to the eastward of the straight course to Bermuda. With the prevailing winds southwest, or south, this is apt to be fatal to one's chances. It is good "dope" to make all the westing one can before reaching the Stream, if it can be done without sacrificing the speed of the boat. Twenty-five or fifty miles of westing before the Stream is reached may save a lot of grief when the boat gets out of the Stream again right on her true course to Bermuda, or even to the westward of it, instead of 25 or 30 miles to the eastward, with a close lay or a beat to make the Islands.

On approaching Bermuda from the northward and the westward one must be very careful of the reefs which surround the Islands on those sides. The visibility is apt to be low over the land, but there is a lighted beacon, North Rock Light, that can be seen for some 12 miles at night, and a cross bearing on this and Gibbs Hill Light give a good fix. In fact, it is easier making a landfall in hazy weather at night than in the day time. If one should make the land from the westward, by reason of holding high on the course in a sou'west wind, it might pay to go around the south side to the finish, as the reefs on this side are close in, and not over one-half mile offshore.

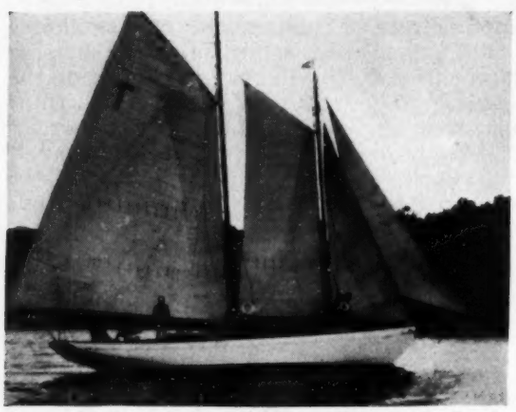
If one gets cloudy and overcast weather the last 24 hours before reaching Bermuda, the navigation is going to be difficult. Extreme caution should be used when you have run out your distance. With a south or southwest wind, and an easterly set, the chances are that you will be to the eastward of the Islands rather than to the westward, but this is by no means certain. The Islands are only 12 miles in length and there is always danger, with poor sights, of missing them, and most of those who have missed them have been to the eastward. But don't overrun your distance too far before trying to get some kind of a sight that will at least give you a line of position, and your most probable position on that line from the D. R. data available. And above all, stick to your sights, even if they don't look right.



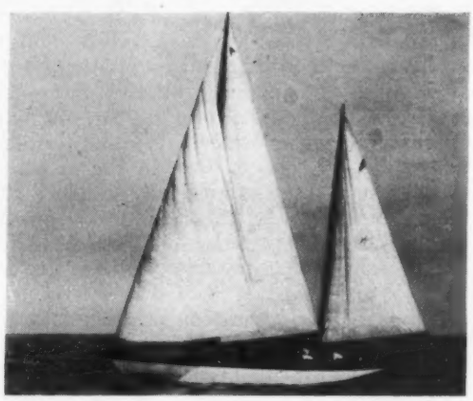
"Bob" Bavier's *Dragoon*.

R. Graham Biglow's *Teal*.

Some of the Yachts that Will Sail in the Bermuda Race in June

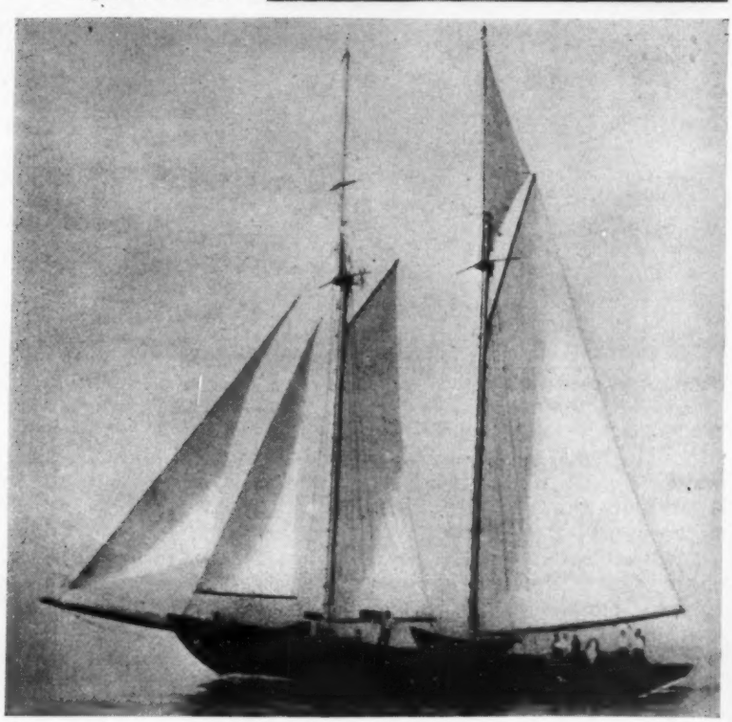


An entry from Lake Michigan, *Elizabeth*. L. A. Williams.



Song o' the Wind. Reyburn Watres.

Lawrence Grinnell's *Flying Cloud III*, which sailed in the 1924 race.



Right: *Alamyth*, owned by W. P. Laytham, entered in the Special Class.

All Set for the Bermuda Race

A Fine Fleet of 30 Yachts, in Three Classes, Awaiting the Starting Gun

Malabar VIII, entered by W. Findlay Downs, of Philadelphia, will try to repeat her winning performance of last year in the Gibson Island Race.

WITH the start of the ocean race to Bermuda less than three weeks off, the prospects for the largest fleet that has ever raced to the little group of islands lying nearly 700 miles out in the Atlantic are bright. With 30 entries already in the hands of the Bermuda Race Committee, and still three weeks to the closing date, it is probable that the number to go across the starting line at New London on June 23rd will exceed that of 1923, at which time 22 yachts started in the revival of the Bermuda Race after a lapse of 14 years. A glance at the list of entries below will show that the fleet this year is of unusually high calibre, and all three classes are not only well filled, but well balanced.

In the larger class there are 15 entrants, the largest being "Bob" Bavier's ketch *Dragoon*, which finished second in the race of 1926. A boat in this class that will bear watching this year is the yawl *Rugosa II*, owned by Russell Grinnell. This is a Herreshoff 40-footer, built two years ago, and rigged as a yawl. Her hull is the same as that of the *Memory*, which won the race in 1924, but her rig is, perhaps, better than that carried on the older boat, as it was designed especially for her. She will be a hard boat to beat, and the fact that she will be navigated by Francis Stone, who has sailed in the last three races, means that the course sailed will be well chosen.

Aside from these two boats, all the other entries in this class are schooners. Among the new yachts entered is the *Malabar IX*, John Alden's last of that line. She was brought down from her builder's yard to Boston in April, but so far it has been impossible to get a line on her speed. She is somewhat larger than her predecessors, being 58 feet in length, and more powerful. Judging from past experiences with those boats, she should make any boat in the race hump to beat her. Another new schooner is Dr. G. W. Warren's *Yankee Girl II*, 67 feet long, from designs by W. H. Hand. So far, she is also an unknown quantity. J. R. Miller has entered his new schooner *Tradition*, built to replace his *Blue Water* of last year, while *Clotho*, owned by H. B. Anderson, is also new.

So with four new craft entered against a fleet whose speed and ability has been proven, and which contains, besides those mentioned, *Malabar VIII*, winner of the Gibson Island race last year, *Windjammer*, holder of the Brooklyn Challenge Cup, and *Flying Cloud III*, the race this year will be hard sailed, from start to finish, and the probable winner exceedingly hard to pick.

In Class B ten boats are fitting out for the race, including two from Lake Michigan. This will be the first time since 1909 that Chicago has had a yacht in this event. In that year the schooner *Amorita*, sailed by Dr. W. L. Baum and a Chicago Yacht Club crew set a record of 78h., 19m. for the course, which has never yet been equalled.

The two fresh water entries this year are the schooner *Elizabeth*, owned by Lynn A. Williams, of Chicago, and the *Gesine*, of Manitowoc, Wis., owned and sailed by John Schuette. Both are Alden-designed schooners 50 feet long, of about the same size as the *Primrose IV*, which crossed the Atlantic in 1926 to sail in the Fastnet Race, in which she finished second in a large fleet. Fred Ames and a hard-boiled ocean crew are getting her ready for the start and fitting her out with light sails. A new boat in this class is the 50-foot ketch *Song o' the Wind*, owned by Reyburn Watres. She is a Mower-designed boat and has recently returned from a cruise to the Bahamas. The two smallest entries in this class will bear watching. *Duckling*, C. W. Atwater's sloop, ran away with the honors in the Cape May Race of last year and beat the larger yachts handily on time. After finishing she squared away for Bermuda on a cruise, without even a rest for her crew. She will bear watching this year, as she will receive time from most of the fleet. *Seal* is a small cutter about the same size as *Duckling*, 37 feet over all. She should give a good account of herself if she is sailed hard.

A special class has been made for larger yachts that may want to race, and the 82-foot schooner *Alamyth* is, so far, the only entry. A prize has been provided, and if she has no competitor she will be raced against the time of the largest yacht in Class A.

Great interest in the small class, under 35 feet, has been aroused, largely because of the sporty nature of the undertaking and also because of the entry of Harry Pidgeon and his yawl *Islander*, in which he sailed around the world single-handed a few years ago. *Islander* is being fitted with a new suit of sails, and accompanying Pidgeon will be George P. Bonnell, commodore of the Cruising Club, and Marty Kattenhorn. The little boats will be started on June 22nd, 24 hours ahead of the larger classes. If they get leading breezes for the first 24 hours of their race, they will undoubtedly pull out quite a lead, and if this happens the rest of the fleet will have to drive hard to beat them to St. David's Head. All the four boats entered in this class are able little craft. All are about of a size and they will be sailed boat for boat, without time allowance. They will not be raced against the regular classes. In the result much will depend on the way in which they are sailed.

The race this year is being sailed under a new measurement rule. Fortunately, the same rating formula will be used this year in all the ocean races and the results will be watched with great interest. It is somewhat more complicated than the rule in use for the Bermuda races of the last three years, but it should prove more satisfactory, and should more nearly equalize the boats of different sizes. However, we will know more about that after this year's race has been sailed.

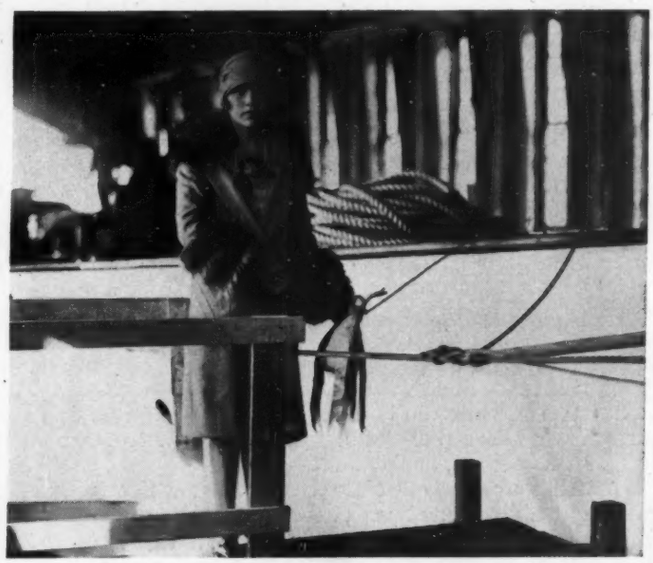
(*Continued on page 122*)

Some of the New Racing Yachts Out this Spring

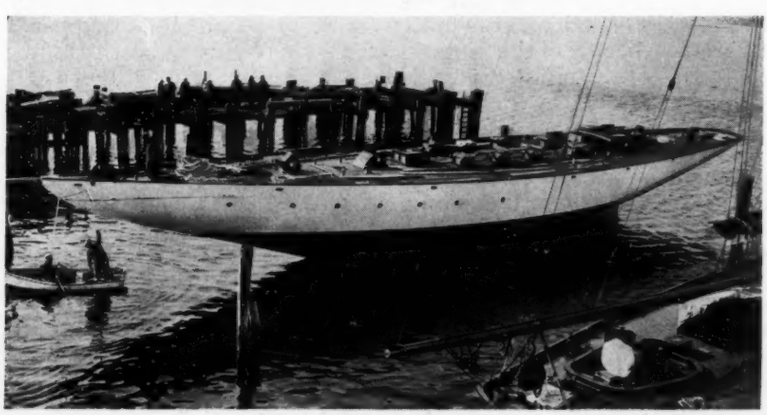
Akaba, Clinton H. Crane's new "Six," has shown lots of speed.

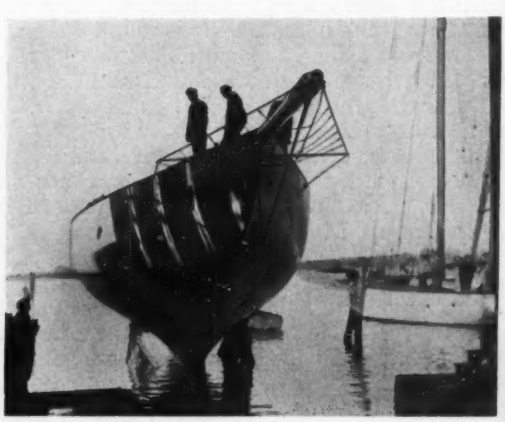
Saleema, Henry Plant's new Six-metre, designed by Sherman Hoyt.

The owners and designer of the *Wasp,* W. A. W. Stewart, H. M. Curtis, and L. F. Herreshoff (right).



Miss Kathryn Tod, about to christen the new *Thistle.*





Launching of Robert E. Tod's new bronze yawl *Thistle* from the Herreshoff plant at Bristol.

Seen on Long Island Sound during the May racing of the Six-metre Class.

Top row, left: The new "Six" *Wasp*, designed by L. F. Herreshoff. Right: *Heron*, owned by Jacob Hekma, has been doing well. Left: *Wasp*, showing the much discussed wooden head stay.

Below, left: Harold Tobey's new Eight-metre *Aleada*, designed by Burgess & Morgan, being launched at Nevins' yard. Right, *Aleada*, the first American "Eight," under sail.

Six-metre *Clytie* (left) and *Frieda*, in a close finish on the first day of racing on Long Island Sound.

The Month in Yachting

Royal St. Lawrence Yacht Club Plans Busy Season

ROYAL ST. LAWRENCE crews will participate this season in races with the White Bear Yacht Club of St. Paul, and also with the Barnegat Bay Y. R. A. The White Bear series will be for the Royal St. Lawrence Challenge Cup, won by the St. Paul sailors on Lake St. Louis in 1921, and successfully defended by them in 1922. The Royal St. Lawrence will send two boats of the B Class to White Bear for a team series late in August. These races will be governed by the rules of the challenging club, which differ from the old I. L. Y. A. rules, principally in raising the height of sail plan restriction from 32 feet to 40 feet.

The B Class boats are racing scows of the type made famous by the A and B Class boats of the Inland Lakes and more recently by the smaller E Class scows, such as those used on Barnegat Bay, plans of which have been published in YACHTING. The "B's" are limited to 32 feet over all and 350 square feet of sail — actual area of jib and mainsail being measured by stretching the sails out flat on the ground. They are handled by crews of four, the weight limit being 650 lbs. The beam of an average B Class racer is usually a little under 7 feet; depth of hull runs from 4 to 6 inches; their displacement is about 2,000 lbs. Deducting 900 lbs. for crew and bilgeboards, this means that hull, spars, sails and gear weigh about 1,100 lbs.

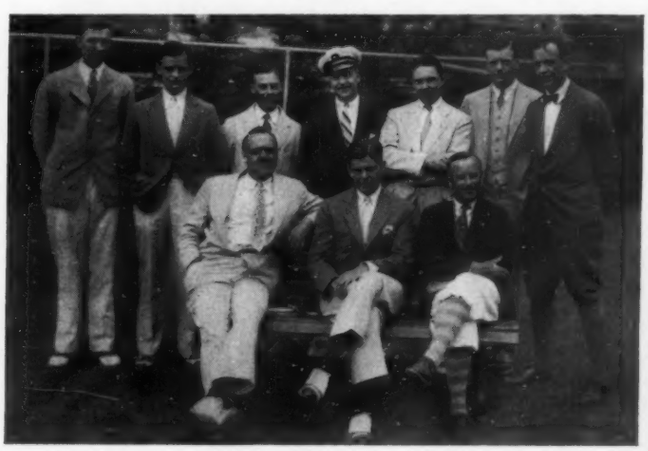
Two new boats are being built this year, both for syndicates — one headed by W. B. Converse, the other by Howard Murray. Both boats have been designed by amateurs who are well-known sailors of these fast racing craft, W. Taylor-Bailey of the R. St. L. Y. C., and N. J. Dinnen, of Winnipeg. George S. Hamilton will be skipper of the Converse Syndicate boat, and the Murray Syndicate racer will be sailed by Commodore G. V. Whitehead.

The R. St. L. Y. C. B Class fleet next summer will be the strongest in the history of the club, with eight to ten boats racing, including *Bootlegger*, the White Bear scow that cleaned up the 1921 series for the Challenge Cup and which was brought to Lake St. Louis last summer.

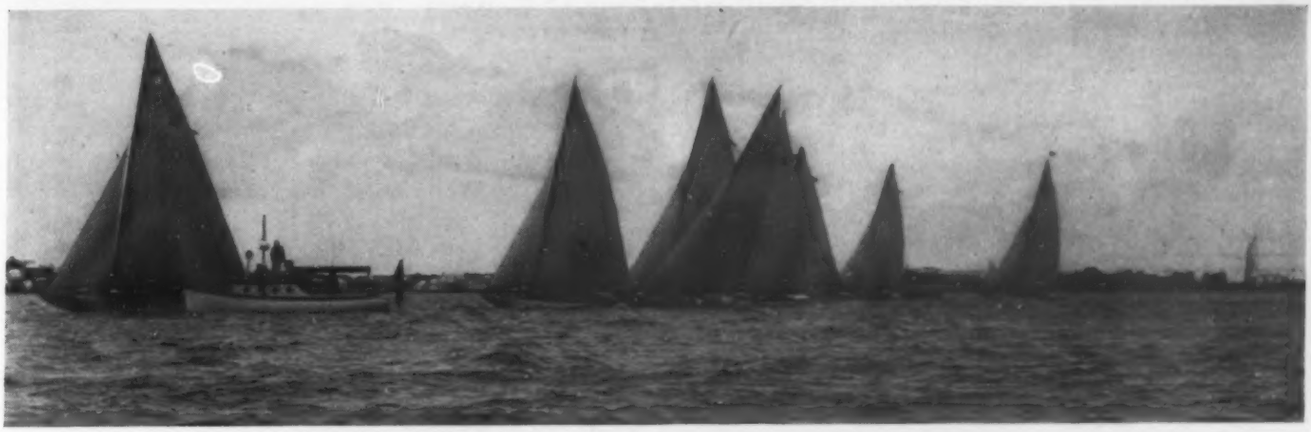
The Barnegat Bay series will be similar to the 1926 and 1927 races between the two organizations. That is, the B. B. Y. R. A. and R. St. L. Y. C. will each be represented by two crews, home and home races will be sailed, using the E Class boats in the Barnegat Bay series and the "B's" in the one on Lake St. Louis. Four races are sailed in each series, the crews changing boats after each race. Total points in the eight races determine the winners. The same crews take part in all races, so that the two series make about as fair a test of the abilities of the crews as is possible. The 1926 races were won by the Barnegat crews. In 1927 the Royal St. Lawrence sailors evened it up, so that this year's event will be in the nature of a sail-off. One outstanding feature of these races has been the fine spirit of sportsmanship shown by all concerned; fifteen races have been sailed and there has not been the semblance of a protest or dispute and the utmost good feeling prevails between the rival organizations.

The Royal St. Lawrence's third big event is the Inter-City Dinghy Regatta which brings together annually two crews from each of three clubs — the Royal Canadian Y. C., of Toronto, the Kingston Y. C., of Kingston, and the R. St. L. Y. C. The

The Royal Bermuda Yacht Club crews that sailed against the Inter-club Team in April. The skippers are E. H. and K. F. Trimingham, J. E. Pearman and O. Darrell.



The crews of the Sound Inter-club Class that sailed the recent series in Bermuda. The skippers (seated) are Gordon Raymond, "Corny" Shields and "Bill" Swan.



Start of team race between the Inter-clubs and Bermuda One-designs, with the former covering the latter.

races are sailed in the 14-foot dinghies of the home club (all three sail the same class of dinghies) and this summer's regatta takes place on Lake St. Louis on July 14th.

Two new A Class yachts will be added to the R. St. L. Y. C. fleet next summer. T. H. P. Molson and C. P. Creighton are having built an Alden-designed centerboard schooner 43 feet long on deck, and J. B. Paterson has ordered a 50-foot ketch-rigged cruiser of the fifty-fifty type. Both boats will be the first of their kind to be seen on Lake St. Louis.

The D and E classes are very strong at the Pointe Claire Yacht Club, and most of the racing in these two classes will be handled by this club which is a small one with a relatively large fleet, mostly "D's" and "E's."

All the racing classes will be stronger than last year and, with so much international racing, the Royal St. Lawrence Yacht Club will have a very busy season in 1928.

"BEAVER"

Canada and United States to Meet on Barnegat Bay

CANADA and the United States will meet for the third consecutive year with four races scheduled on Jersey waters and a like number on Lake St. Louis, just off the St. Lawrence River, near Montreal. The dates announced by the committee call for the initial series to take place on the home course of the Royal St. Lawrence Y. C. on August 3rd and 4th, with the return encounters to be staged off Seaside Park, on Barnegat Bay, on August 31st and September 1st.

As the two countries have each won a series, the United States in 1926 and the Canadians last summer, interest in Jersey in the coming engagement is intense. Seventeen Barnegat crews will fight for berths on the American team, of which only two are to be

(*Continued on page 124*)

E. H. Trimingham's *Atlantis*, of the Bermuda team, was high point winner of the series.

Results of 1928 International Team Races

SOUND INTER-CLUB CLASS VS. BERMUDA ONE-DESIGN CLASS

POINT SCORE

Name	*Owner*	*Sailed by*	*Team*	*Race No. 1*	*Race No. 2*	*Race No. 3*	*Race No. 4*	*Total Points Scored*
Atlantis	E. H. Trimingham	Owner	Bermuda	8¼	7	6	5	26¼
Ahab	E. Sachs	W. Swan	U. S. A.	5	5	7	8¼	25¼
Aileen	C. Shields	Owner	U. S. A.	3	6	8¼	7	24¼
Babette	J. Shethar	Owner	U. S. A.	6	8¼	3	6	23¼
Sea Witch	L. P. Jones	K. F. Trimingham	Bermuda	2	3	5	4	14
Starling	J. E. Pearman	Owner	Bermuda	7	4	1	2	14
Chinook	G. Lauder	G. Raymond	U. S. A.	4	..	4	3	11
Longtail	E. C. Gosling	O. Darrell	Bermuda	1	2	2	1	6

SUMMARY OF TEAM POINTS

	U. S. A. Team	*Bermuda Team*
Race No. 1	18	18¼
Race No. 2	19¼	16
Race No. 3	22¼	14
Race No. 4	24¼	12
Total	83¾	60¼

Editorial

The Season Starts with the Six-Metre Trials

WHAT promises to be the most active racing season the sport has ever seen was ushered in on the eastern seaboard early in May, nearly a month before the usual time. This was due primarily to the necessity of selecting yachts to represent the United States in our various international engagements abroad, for this year we are committed to no less than four matches in foreign waters. These will all be sailed in Six-metre yachts, and with three new "Sixes" built in the East, and many older ones all anxious to be represented on the team to be sent across, the racing had to begin early in May. As this is being written the trial series in this class is in full swing, and if we must pick heavy weather craft for sending abroad, these early races are certainly providing the right kinds of wind to enable the selection committee to find out which these are.

In the first four races two of the new boats, *Akaba* and *Saleema*, showed that they have to be counted on, and though it is early to predict, it looks as if they would have to be considered on their form in these early races. The older boats, however, have also done remarkably well, and *Lanai*, veteran of many international matches, *Redhead* and *Heron* have shown remarkable speed in the heavy breezes. It looks as if the contention of the advocates of the International Rule, that it is hard to outbuild existing boats, is being proved most conclusively. The racing in this class has been extremely close throughout.

Our foreign commitments consist of the British-American Team Match on the Clyde, starting July 13th, for which four boats must be chosen, the Scandinavian Gold Cup Race, off Stockholm, July 8th, for which a boat must be selected, the races for the Seawanhaka Cup, to be sailed in Norway starting August 4th, and the Olympic Games, early in August, for which the N. A. Y. R. U. has made an entry in the Six-metre Class.

A Great Year for Ocean Racing

Never, in the history of yachting, has there been as keen interest, and as great a degree of participation in ocean racing as at present. This is borne out by the unprecedented number of events scheduled for this season and the size of the fleets that will sail in them. No less than four blue water races of major importance, ranging from 615 miles in length up to 3000, in which over 70 yachts have been entered, are on the calendar for this summer. Except for the larger class in the Transatlantic Race, most of these boats will be sailed and manned by amateurs. This shows not only the hold that contests of this kind have taken on yachtsmen who want something more than the short, triangular afternoon racing of the regular season, but proves also that the spirit that animated our seafaring ancestors is not dead, and that the lure of the sea is just as strong today as it was in the days when one did not know what lay beyond the distant horizon and when there were still new seas to sail and fresh lands to discover.

Never before, perhaps, has there been a time when so many who sail for pleasure only could be found who were both willing and able to go offshore in small boats on these long, hard ocean drives. This has been due primarily to the distinct type of yacht that has been recently developed in this country for cruising, under the stimulus of ocean racing. Able, comfortable, and yet fast, the type of yacht in these races has inspired a confidence for offshore work that the conventional racing type never did. And with confidence in the boat, came confidence in one's ability to handle her at sea under any conditions.

What the "Passing up" of the Gold Cup Race Means

With the announcement that there will be no race for the Gold Cup this year, one cannot help but feel that speed boat racing in the higher powered classes is in a bad way. There was but little enthusiasm for the race for this historic trophy last season, and but few of the other events for boats of really high power produced any large number of starters, or any very interesting boats. This year the measurement rule has been changed and practically all restrictions have been removed from Gold Cup boats except piston displacement. The result has been such a lack of interest in building new boats that the race has been "passed up," which in itself is to be regretted. For there is no doubt that the Gold Cup Class in the past played a large part in the development of both boats and engines of racing type.

To our way of thinking, the great trouble with the racing of high powered boats in the past has been that there has been too much commercialism connected with it to make it very attractive to the sportsman; and unless racing is conducted for the man who enters into it for the sport, it is not on a firm or substantial footing, and never will be. For development purposes there is, of course, a place for races conducted for and patronized largely by the manufacturer; but as a sport it can hardly be expected that an individual will design, build and race a boat for sport alone, when he knows he will be called upon to meet the engine or boat manufacturer who is competing for commercial prestige and who has unlimited resources, and a factory at his back. Some few sportsmen have tried it in the past. Fewer will attempt it in the future, especially since most of the restrictions that aimed to keep the boats within reasonable limits have been removed.

This is one of the reasons why the racing of outboards and the little "151's" has proved popular. The financial outlay was small, and the racing has been kept largely (but not quite) in the hands of the boat owner.

In the World of Yachting

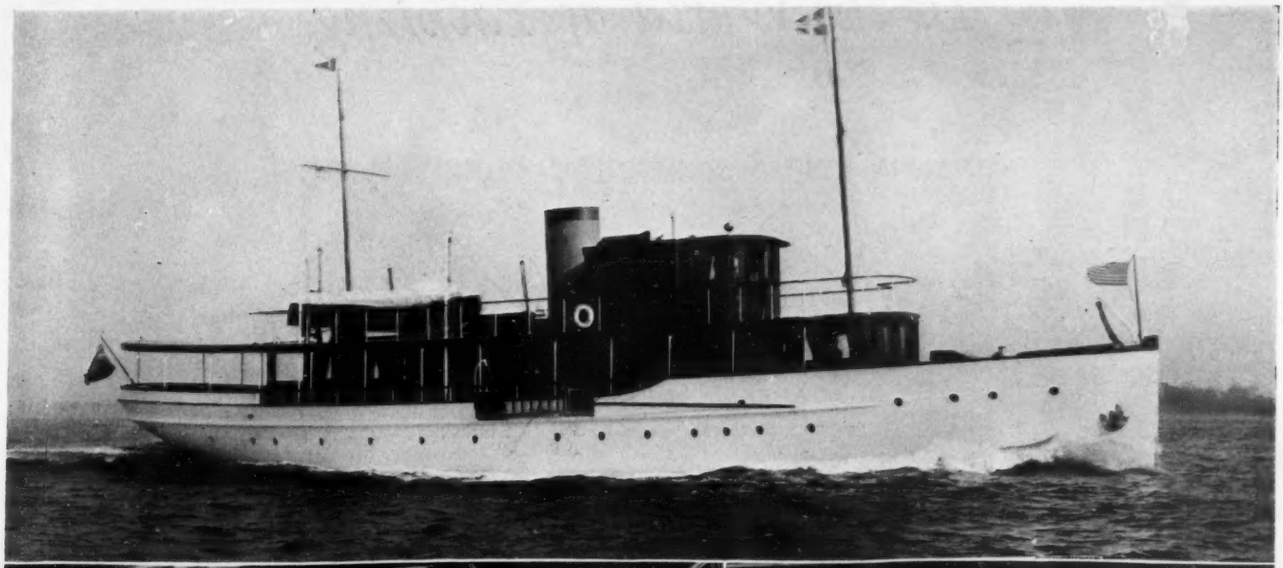
C. F. HAVEMEYER

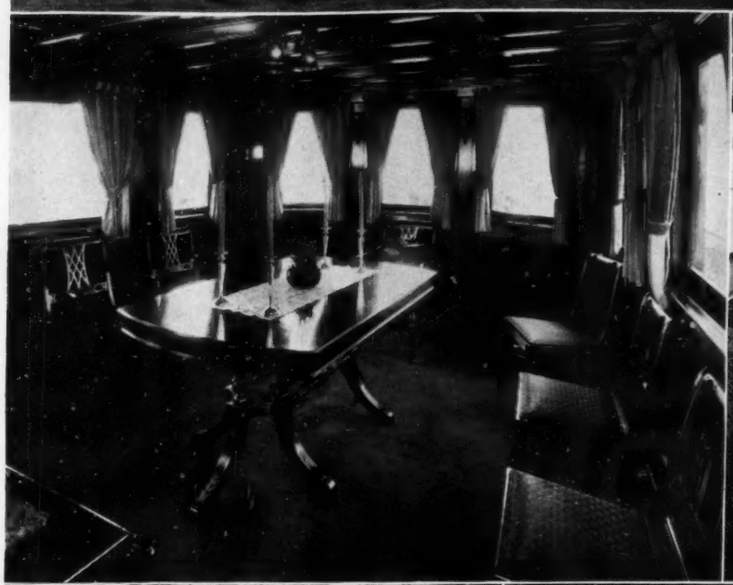
ONE of the younger racing skippers on Long Island Sound who has been identified during the past few years with the Six-metre Class, where he has proved himself a clever helmsman, is C. F. Havemeyer, better known to his friends, perhaps, as "Bubbles."

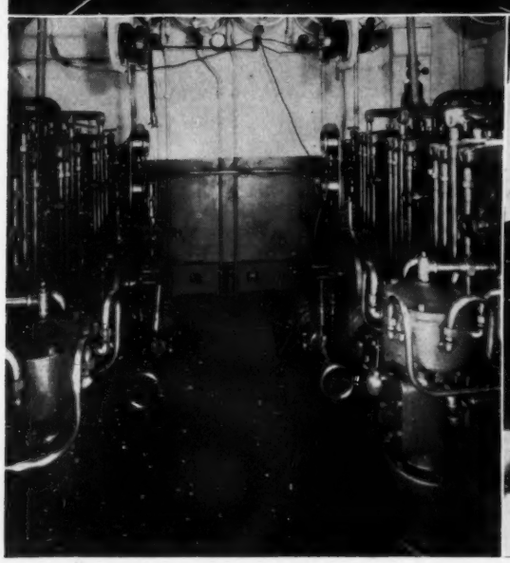
It was in the 17-foot class at Dark Harbor, Maine, that C. F. Havemeyer got his initiation into yacht racing, soon after he left Harvard, where he played varsity football in his undergraduate days. In this hot class of little boats he was very successful for several seasons. A member of the Seawanhaka Corinthian Yacht Club, he became identified with the "Sixes" when that club promoted international racing soon after the war, and he sailed in "Montauk" when that boat came out in 1921. In 1924 he sailed on "Heron" in the same class, and also in Class S, which was then going strong at Oyster Bay. In the following year he was one of the crew of "Redhead," with Mr. H. M. Crane, in the elimination series of that year to pick a boat to go across for the Seawanhaka Cup. He also sailed in the international series against the Scandinavians that autumn. Last year he sailed the "Frieda," one of the successful "Sixes," but he was beaten by "Lea" in the trials to pick a defender for the Scandinavian Gold Cup. This year he is sailing "Redhead" in the early trials on the Sound to select a team to represent the United States abroad.

Much of Havemeyer's cruising has been done in the Crowninshield-designed yawl "Tempest," which he owned for several years.

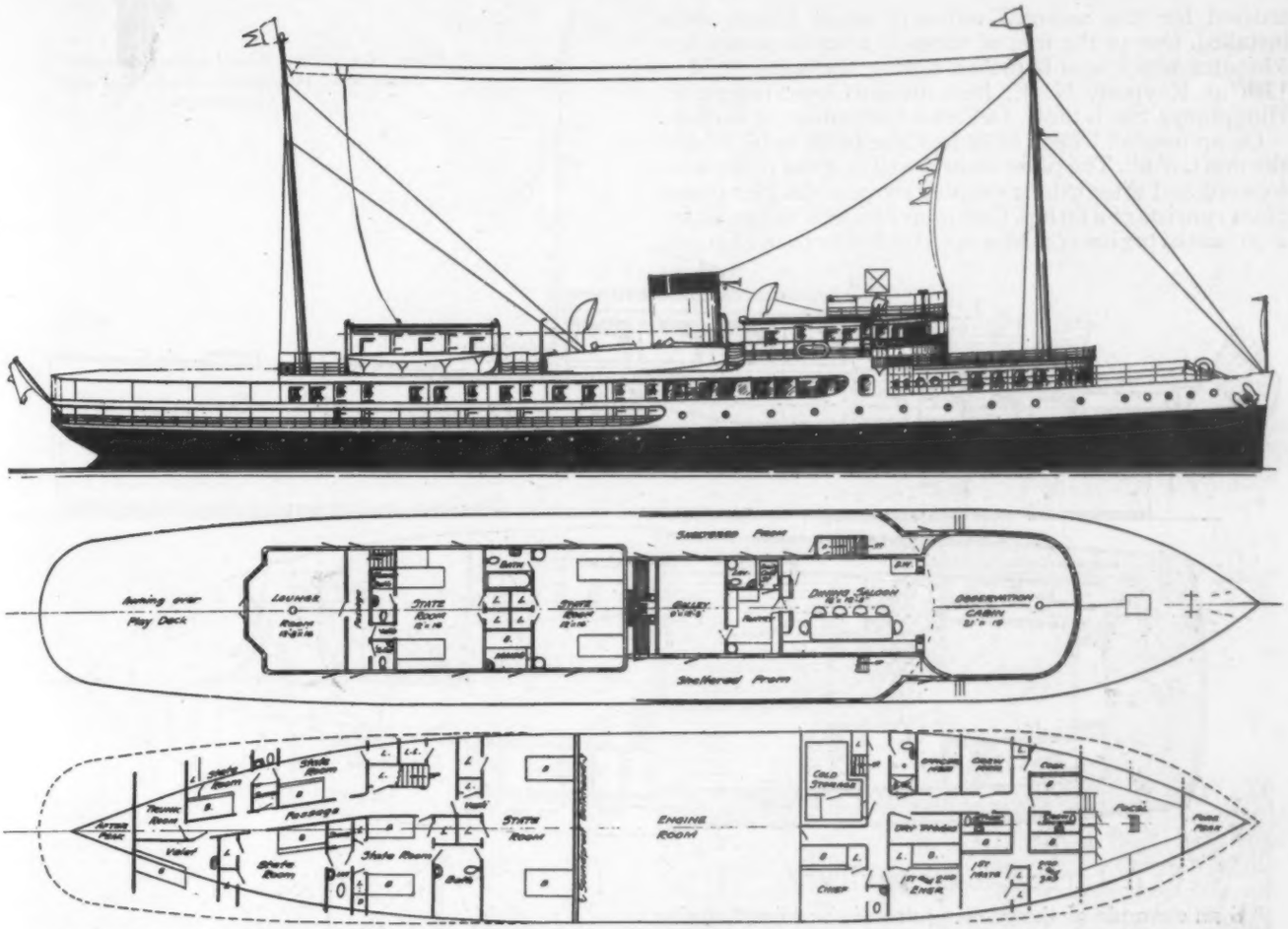
Shirlohn — A Moderate-Sized Diesel Cruiser







The growing use of Diesel power for cruisers of moderate size is seen in *Shirlohn,* a 110-foot motor yacht owned by G. M. Williams, of Indianapolis. Designed by H. J. Gielow, Inc., and launched late last season, she is powered with two Bessemer Diesels of 300 total h.p. The handsomely appointed deck dining saloon, the spacious after deck, the living room, and compact engine room are shown in the reproductions.



Profile and accommodation plan of an unusual Diesel-powered yacht designed by K. H. Scheel, naval architect of Los Angeles.

A West Coast Diesel Yacht with Many Distinctive Features

DEPARTING in many respects from the usual type of modern Diesel-powered yachts, K. H. Scheel, naval architect of Los Angeles, has turned out the plans of a craft of decidedly distinctive features, which are reproduced above. This yacht is 165 feet long, and will be powered with a pair of 500 h.p. Diesel motors, with additional Diesels for auxiliaries, thus eliminating all gasoline below decks.

The profile shows an almost straight sheer, with a modified warship-type bow and rounded counter stern. The rails are so arranged that at a short distance one deck height gives the appearance of two. With the pronounced longitudinal lines the vessel appears much longer than yachts of average design, several panel ports and a novel bridge arrangement heightening this effect.

The accommodations on the forward boat deck include a bridge, pilot house, chart room, captain's quarters, etc., with a radio room, operator's quarters, etc., aft.

The main deck accommodations call for a large observation room forward with complete vision sitting down or standing up. The windows will be equipped with mechanical disappearing steel storm shutters, making the structure invulnerable in bad weather. Abaft the observation room is the dining saloon, adjacent to the pantry, galley, etc. Outboard of the dining saloon is a large promenade deck, sheltered with a glass enclosure above the rail, the windows of which may be wound down at will, leaving the deck an open promenade.

The owner's quarters are on the main deck from amidship aft. A large lounge room with French doors opens onto the after deck, which is awning-covered. The after under deck accommodations include several large staterooms, trunk room, bath rooms, and ample locker and storage space. Excellent crew's accommodations are found forward.

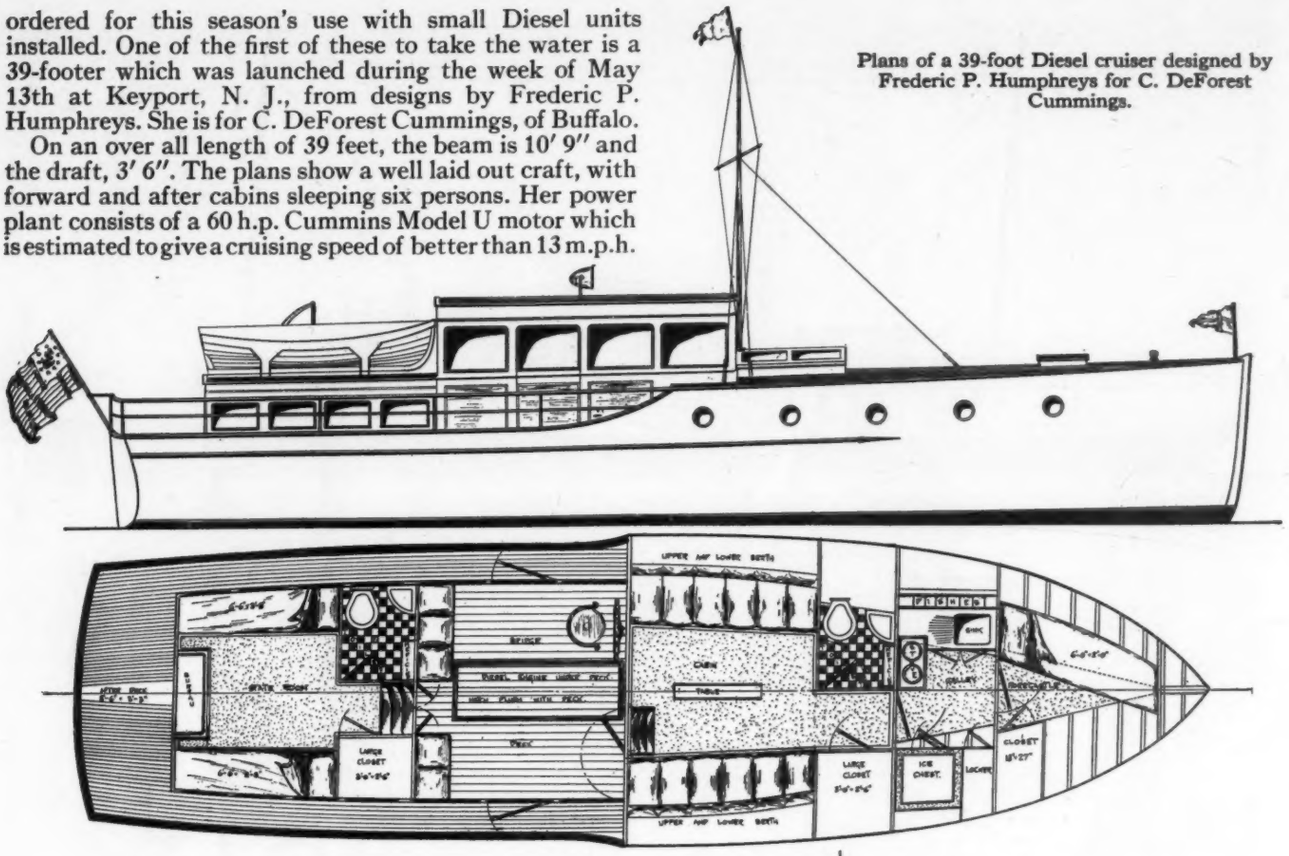
A 39-Foot Diesel Cruiser

ALTHOUGH the Diesel engine has long been in use as a prime mover for large, or even moderate-sized yachts — where it has crowded steam out of the picture except in the case of some electric drive installations using steam turbine generators — it has so far not been seen in very small craft. This season, however, will find the several new models of light weight Diesels that develop their power at from 600 to 800 r.p.m. installed in small craft for the first time, so that the owner of such boats can have the benefits in the matter of operating costs, large cruising radius, and absence of fire hazards, that have heretofore been available only in larger craft. Just what these advantages amount to is ably set forth in an article in this issue of YACHTING on the coming of the small Diesel, that is as automatic in operation as any of the modern gasoline motors in such general use.

Several cruisers from 36 to 50 feet long have been

ordered for this season's use with small Diesel units installed. One of the first of these to take the water is a 39-footer which was launched during the week of May 13th at Keyport, N. J., from designs by Frederic P. Humphreys. She is for C. DeForest Cummings, of Buffalo.

On an over all length of 39 feet, the beam is 10′ 9″ and the draft, 3′ 6″. The plans show a well laid out craft, with forward and after cabins sleeping six persons. Her power plant consists of a 60 h.p. Cummins Model U motor which is estimated to give a cruising speed of better than 13 m.p.h.

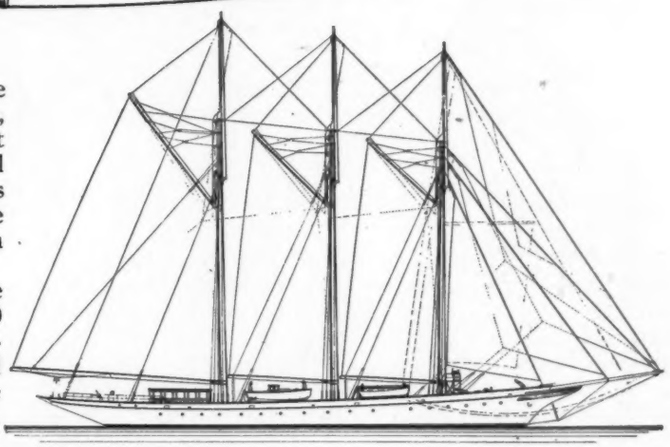


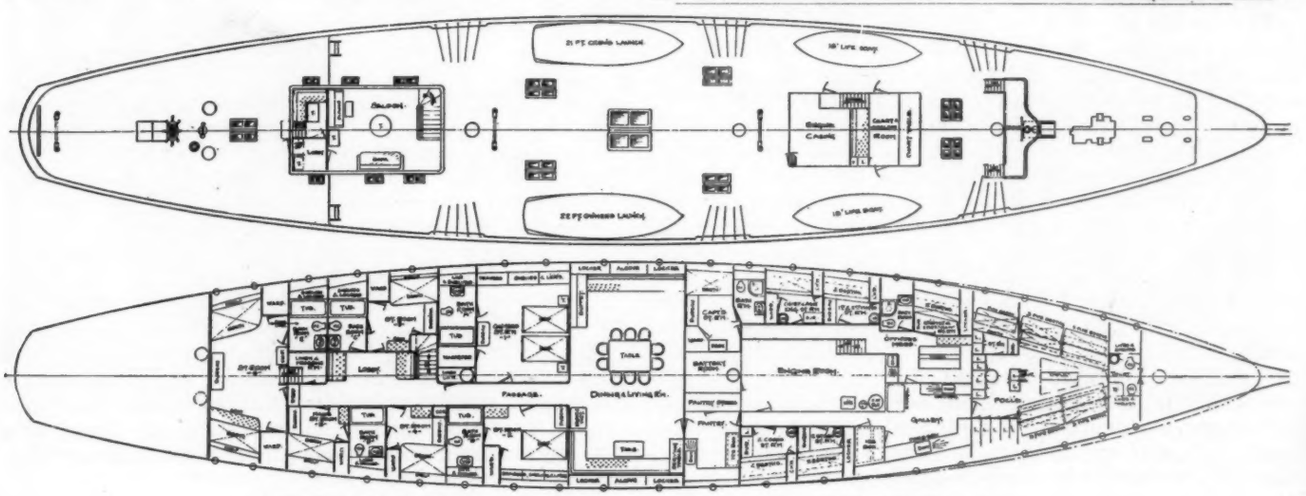
Plans of a 39-foot Diesel cruiser designed by Frederic P. Humphreys for C. DeForest Cummings.

A Large Diesel Auxiliary

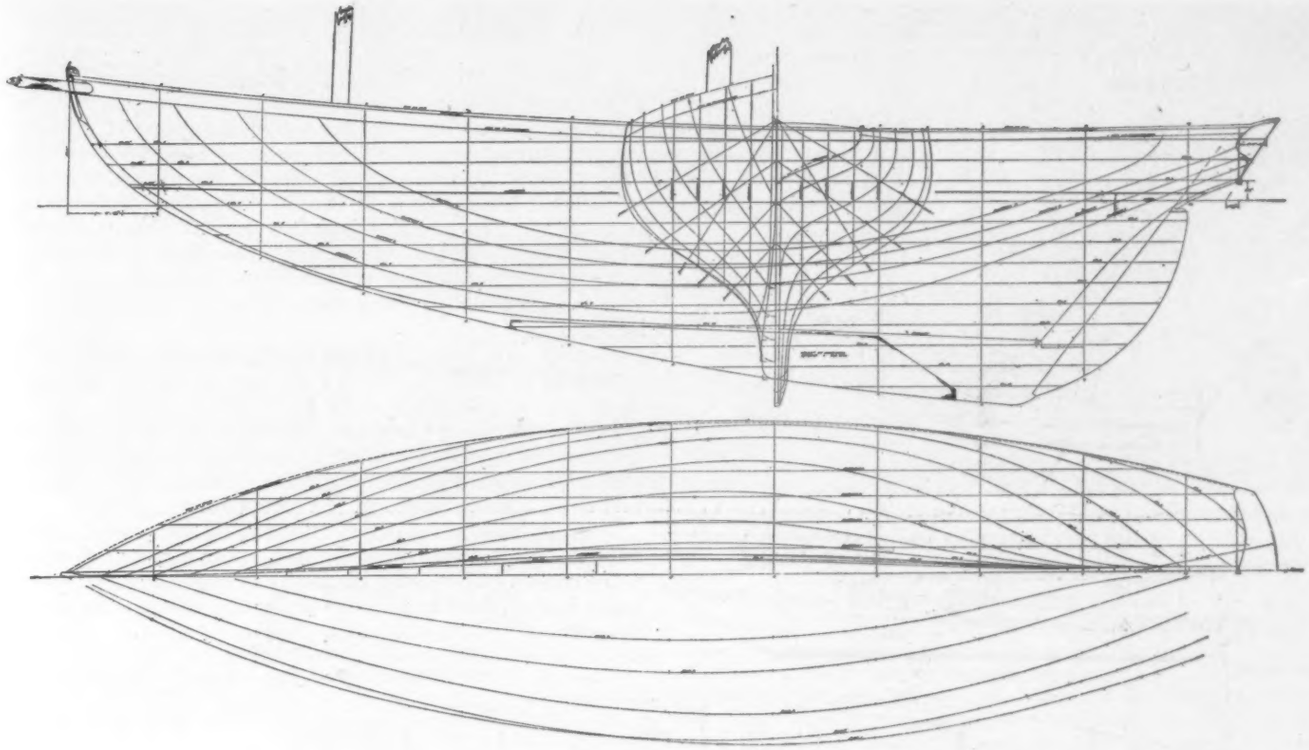
AS an example of the growing use of the Diesel engine for auxiliary power in ocean going sailing yachts, the accompanying plans show the design of a 173-foot clipper bowed schooner by John H. Wells, Inc., that will bear careful study. The type is one that recommends itself to those who have had experience offshore, and the three-masted schooner rig will prove much handier than a two-masted rig on a vessel of this size.

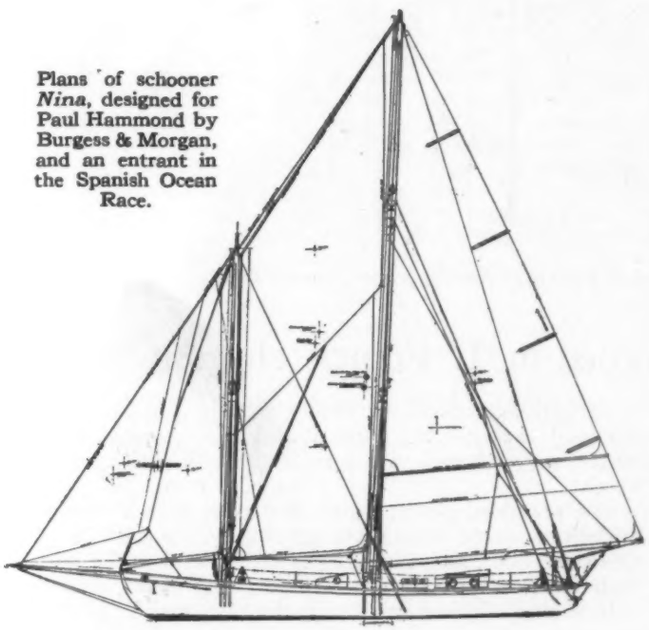
Auxiliary power consists of a 400 B.H.P. Diesel engine which is expected to give the yacht a speed of about 10 knots in smooth water. The hull is of steel and the dimensions are: l.o.a., 173′ 6″; l.w.l., 140′; beam 31′, and draft 16′. Two double and four single staterooms are provided for the owner, with five bathrooms connecting.





Plans of a 173-foot Diesel auxiliary cruiser from designs by John H. Wells, Inc.





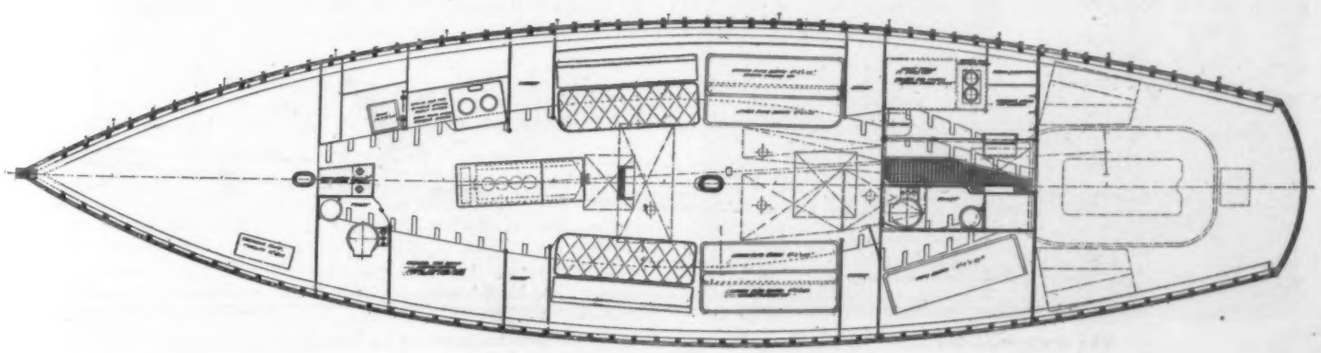
Plans of schooner *Nina*, designed for Paul Hammond by Burgess & Morgan, and an entrant in the Spanish Ocean Race.

A Transatlantic Racer

CONTRARY to their usual custom, Burgess & Morgan, Ltd., have allowed the reproduction of the lines, sail and cabin plans of one of their creations, the schooner *Nina*, recently completed by her builder, Reuben Bigelow, of Monument Beach, for Messrs. Paul Hammond and Elihu Root. She was designed under the measurement rule for the Spanish Ocean Race, her dimensions being as follows: l.o.a., 59′; l.w.l., 50′; beam, 14′ 10″; draft, 9′ 11″; sail area, 2,336 sq. ft. She is built in the best possible manner, being double-planked with mahogany, with teak decks. All ballast is outside, the lead keel weighing 29,590 pounds.

The rig is of a modified *Advance* type. The short ends are the result of the measurement rule, which penalizes long overhangs. The displacement is but little over the limit of the Universal Rule, and with sharp deadrise and generously rounded garboards, wetted surface has been kept very low.

The Alden-designed schooner *Mohawk*, owned by Dudley Wolfe, whose design appeared in YACHTING for April, has entered the Transatlantic Race instead of the Bermuda Race. A comparison of the designs and performances of *Mohawk* and *Nina* should prove decidedly interesting.



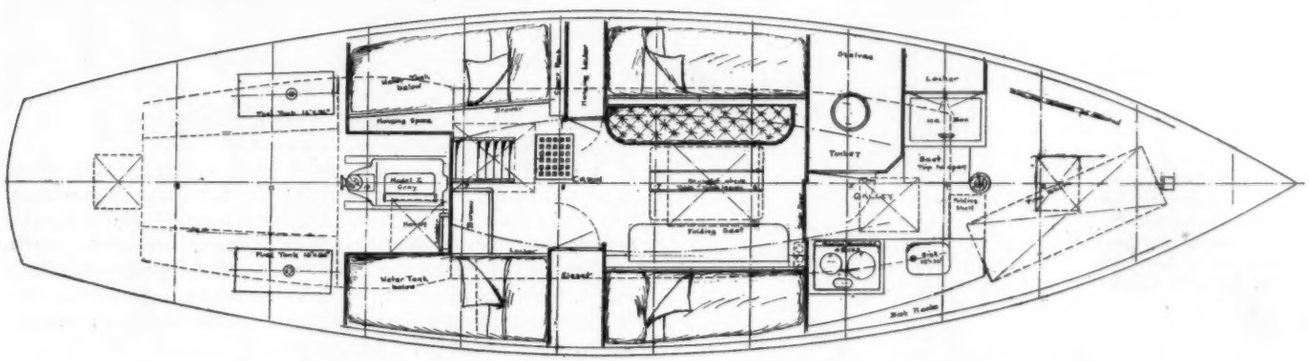
Sail plan.

A Jib-Headed Cruising Ketch

A JIB-HEADED ketch of pleasing appearance and ample cruising accommodations is shown in the accompanying plans from the board of Samuel H. Brown, Jr., of Marblehead, Mass. She is being built by Kenneth McAlpine, of Shelburne, Nova Scotia, for Marquis Smith, of Salem, Mass., and is of the following dimensions: l.o.a. 40′ 6″; l.w.l. 32′ 4″; beam, 10′ 10″; draft, 5′ 9″. Most of the ballast is outside in the iron keel, with a moderate amount inside for trimming purposes. A 4-cylinder motor is expected to give a speed between 7 and 8 miles an hour.

The interior plan is of the "wide open" variety, with two quarter berths aft with lockers forward of each. The main cabin, amidships, has two built-in berths, with a fixed seat on the port side and a folding seat to starboard. Forward of the main cabin is a spacious toilet room to port and an ample galley opposite, with a pipe berth and plenty of storage space in the forepeak.

The jib-headed rig is not only one of the easiest rigs to handle, but is approximately 10% more efficient to windward than a gaff-headed rig, and has been shown in actual races in duplicate hulls to be unusually effective in strong breezes.



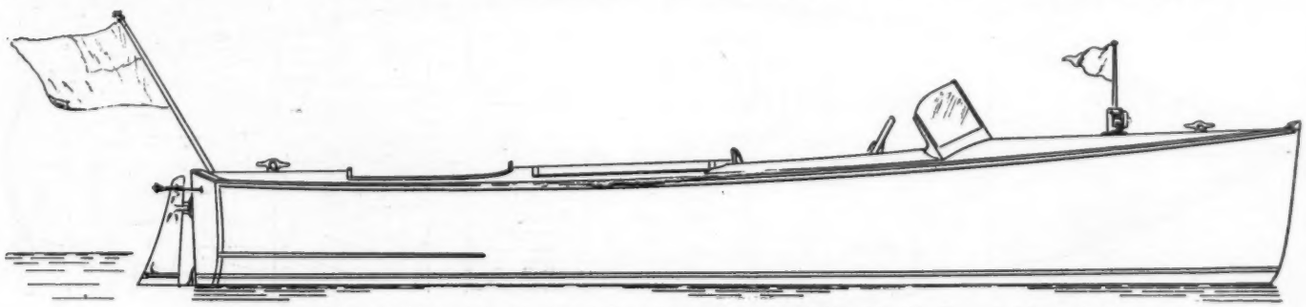
Accommodation plan of the auxiliary ketch designed by Samuel H. Brown, Jr., for Marquis Smith.

A Snappy Stock Runabout Designed by L. Francis Herreshoff

BELOW is pictured the stock runabout, 21 feet long, designed by L. Francis Herreshoff for the Dyer Motorcraft Corporation, of Providence, R. I., which made such a favorable impression with visitors to the Boston Motor Boat Show. In trial runs, this attractive craft easily developed a speed of 25 miles an hour. Since then, the boat has been increased two feet in length, which it is believed will increase her speed, besides giving considerable more room, especially in the forward cockpit.

The construction is decidedly unusual, double diagonal planking being laid over longitudinal web frames. This construction worked extremely well in the Herreshoff-designed racing craft *Yankee* and *Live Yankee*, and in several power boats, giving rigid strength with very light weight.

The standard power plant in Model A is a Universal Superfour motor, which will develop better than 25 miles an hour. The inner planking is cedar, and outer skin of mahogany, finished bright. Both cockpits are equipped with spring cushion seats, and the rest of the equipment is complete, modern and of the highest grade. All fittings and fastenings are of bronze or brass throughout.



The stock runabout built by the Dyer Motorcraft Corporation, designed by L. Francis Herreshoff.

For commuting purposes in sheltered waters the fast runabout is filling a real need at small operating cost. Here is a 29-foot Hacker-Dolphin Sedan, which seats seven comfortably and makes 40 miles per hour with a Sterling Petrel motor.

Robert W. Emmons, 2nd

IN the sudden death on April 18th of Robert W. Emmons, 2nd, yachting lost one of its most prominent figures and keenest racing skippers. Devoted to the sport since boyhood, he has, during the past 25 years, owned or raced many of the prominent yachts in the New York and Eastern Yacht Club fleets, and during the last series of races for the America's Cup he won distinction as the manager of the successful defender, *Resolute*.

After graduation from Harvard, where he was prominent on the varsity football team, Bob Emmons did most of his early sailing on Buzzard's Bay. When the Buzzard's Bay one-design 30-footers came out, he had the *Mashnee*, in which he raced successfully. Later he owned and raced the fast Herreshoff sloop *Humma*. In 1907 he built the *Avenger*, which proved so successful that she nearly broke up the class in which she raced. When the New York Yacht Club 50-foot class came out he sailed the *Barbara* for his friend, Harry Payne Whitney, and during the following years he raced in this class, sailing various boats.

Bob Emmons was, perhaps, best known through his successful management of the *Resolute* during her long career as defender of the America's Cup. In 1914 when this yacht was built, the New York Yacht Club Syndicate placed him in charge, with Charles Francis Adams as helmsman. These two campaigned *Resolute* during all her career as a cup aspirant and through the international races which, on account of the Great War, were not sailed until 1920. Seldom has a yacht been better sailed and managed than was *Resolute* in all these years, and in the opinion of many it was this thorough organization and skill in handling that made her the selection of the committee that named the defender, and that brought her through to victory.

When the *Resolute* and her old rival, *Vanitie*, were later changed over to schooner rig, Emmons had charge of *Vanitie* for Harry P. Whitney, and he and Adams made her a victor over their former charge. For two years Emmons handled her successfully, and up to the time of his sudden death he was expected to be on her quarter deck this season.

One of Bob Emmons' sons, Gardiner Emmons, has inherited his father's love of the sea. He sailed in the Bermuda Race of 1926, and last year crossed the Atlantic and sailed in the Fastnet race in the little schooner *Nicanor*.

Harmsworth Trophy Challenger

MISS BETTY CARSTAIRS will be England's principal challenger for the Harmsworth Trophy at Detroit, September 1st to 3rd. Miss Carstairs will bring two speed boats to this country to challenge the Gar Wood record of 80.567 miles per hour established with *Miss America II* in 1921.

The boats, 21 and 26 feet long, will be powered with Napier-Lyons engines, each capable of developing 1,200 horsepower. It is said that these craft were built under penalty of purchase price forfeit if they failed to cover the water at 90 miles per hour.

Gold Cup Race Cancelled

THE Gold Cup Regatta will not be held this year, according to C. F. Chapman, rear-commodore of the Columbia Yacht Club and secretary of the Racing Commission of the A. P. B. A. Inadequate facilities for servicing boats and patrolling the Hudson River, together with the growing traffic hazards, have practically prohibited consideration of the regatta upon the home waters of the Columbia Yacht Club.

Bear Mountain Handicap Regatta

THE next race on the list for regatta followers is the Bear Mountain Handicap for cruisers, to be held on the Hudson, June 24th. There are indications that the list of events may be expanded to include a motor boat carnival and several special contests for cruisers and runabouts.

Many Prominent Speed Boats Lost in Recent Fire

REGATTAS scheduled for 1928 will suffer as a result of losses due to fire at Purdy's boat house, Port Washington, L. I., which destroyed the power units belonging to *Miss Columbia*, *Shadowvite*, *Hotsy Totsy*, *Baby Shadow*, *Rowdy* and *Rascal*. The well known 151 hydroplane, *New Yorker*, was also lost.

Robert W. Emmons, 2nd.

Under the Lee of the Longboat

by Cap Stan

WHY is it that close to 100% of the photographs of yachts are taken when the boat is going to windward? Seldom do we see a photo of a boat reaching, or driving off before it. Some good photos of craft charging along before the wind, with spinnaker bulging and straining, would be a welcome change of diet.

* * *

Besides the remarkable time made by several contestants in the Albany-New York Outboard Time Trials, the point which strikes me most favorably is the fact that the motors, with few exceptions, stood the gaff in great shape. Last year many motors gave up the ghost on account of poor lubrication. Evidently the manufacturers have solved this problem in their new models, for any outboard which can go "all out" for 130 miles without trouble comes pretty near to being O.K., in every respect.

My regards to the designers of the winner, *Baby Olds*. Not only for the rather remarkable hull which they have developed, but for the fact that they streamlined the hull above the water line. Why, in the name of common sense, hasn't this been done before in racing craft? Any text book on aeronautics teaches the importance of streamlining. Dr. Curry, in his book on *Yacht Racing*, cites a mighty interesting example of the effect of streamlining a *landskiff*, or human-propelled vehicle, in which a streamlined model was propelled much faster and easier than an open model, even at comparatively low speeds. Tables of wind resistance show a pressure of 4.4 lbs. per square foot at 30 miles an hour, 6 lbs. at 40 miles, and over 12 lbs. at 50 miles an hour. Isn't streamlining worth while? Rather. Just as important as saving a few square inches of wetted surface, which every speed boat designer gets the jimjams trying to do. Think of an 80-miler with a wind pressure of 31 lbs. per square foot to overcome — then perhaps the importance of streamlining will begin to filter through the old bean.

* * *

The most pleasant aspect of the 1928 Bermuda Race is the caliber of the entrants. With hardly an exception, the boats entered to date are able, comfortable, fast craft, asking no odds of any boat their size in a give-and-take ocean passage. Whereas, in both 1923 and 1924 there were quite a few "arks" and "lightships," and more than one craft with too long ends, light displacement, and poor form, 1928 sees these undesirables practically eliminated. And in developing a fine fleet of seagoing yachts of moderate size, ocean racing has stimulated interest in long distance cruising by giving us really worthy craft in which to do extended cruising in safety and comfort, and with speed, to the extent that it is nothing unusual nowadays for yachtsmen to cross oceans merely for the fun of the thing. Most assuredly, cruising men owe a debt of gratitude to ocean racing for the type of boat which it has developed in the past five years.

* * *

Despite the discouraging experiences of the smaller craft in last year's Fastnet Race, and the majority opinion of British yachtsmen that the little fellows are unfit for a 600-mile race, five boats under 35 feet over all length have entered the small class in the Bermuda Race. A fairly easy hike to Bermuda this year will undoubtedly mean an even larger entry list in the next contest, while a hard dragout may result in the little fellows staying at home another year. We'll see.

* * *

According to latest advices, the Prince of Wales has fallen a victim to the lures of outboard motoring. If he pursues his new sport along the same lines as he does his horseback riding, it won't be long before he'll quality for membership in the Hell Diver's Association.

* * *

Those who have followed Manfred Curry's articles in YACHTING will undoubtedly remember that in the January number, in an article entitled "The Jib-Boom," he gave us the results of using a jib in which the tack was set *to windward* of the center line of the hull, the final result being the "jib-boom," or a prolongation of the main boom, where the tack of the jib automatically shifts to windward. Dr. Curry is highly enthusiastic over the results obtained by setting the jib in this way. All well and good. But along comes Mr. Clinton H. Crane, our foremost designer of 6-metre boats, and arranges the jibstay of *Akaba* on a traveler, and carries the tack of the jib *to leeward*. Now, *Akaba* is a very successful boat, one of the first to be chosen to carry our colors in foreign competition this summer. Yet, according to Curry, who has done more experimenting than anyone on this side of the pond, her jib is set all wrong. Wherefore, the question arises — Is *Akaba* sailing so fast despite her jib being set wrong, or is Dr. Curry all sour with his contrary dope? Perhaps Mr. Crane will tell us if he has tried his jib set to windward, and what the results of the trials were.

Model Yachting

Prospect Park M. Y. C. Builds New "B" Boats

AS evidence that model yachting is an all-the-year-round sport, the accompanying photograph, taken on Saturday, March 3rd, on the Prospect Park Lake, is submitted. It wasn't so very mild that day and the wind — "he blew," as the Canuck puts it.

Captain Charles T. Clarke is shown sailing *Penguin*, a new B Class model, designed and built by the writer and jointly owned by him and Captain Clarke. She lines up about as follows: Length over all, 84″; length water line, 58″; water line beam, 14″; quarter-beam, 00.76 penalty; rating, just under 46; draft, 13″; displacement, 90 lbs.; sail area, 3,400 sq. in.

Note that Captain Clark is *rowing*. His oars, notice, are too fast for the camera. But 90 pounds of displacement likes wind, and lots of it — and isn't bothered much by a bit of a sea. When the club moves to the Atlantic Yacht Club's station, to which it has been invited for the summer, the owners of *Penguin* expect great things of this grandfather of all "B" boats. And if the expectations are realized, she may appear at an Eagle Cup Regatta.

Penguin is but one of a number of new "B" boats built or building in the Prospect Park Club. Captain Taylor has launched the *Ticonderoga*, Captain Burbank the *Valiant*, and Commodore

New Class B model *Penguin*, 84 inches in length, sailing on Prospect Park Lake. She is owned by Captain Charles T. Clarke and W. H. Meserole.

***Bostonia III*, John Black's new Class A International Rule model, which he will sail in the selection races at Washington in July. In her early trials she has proved fast and well balanced.**

Wanker is laying out a new big fellow to replace his *Gowanus*, which he has sold to Captain Haigh. The *Gowanus*, twice the club champion, is not, however, sold "down the river." She remains within the club.

The new tendency in the P. P. M. Y. C. is toward the heavy displacement boat. Some of the members think they are as good as the light ones in drifting matches, and all concede their superiority in a blow and a sea.

The great difficulty, with these big boats, is to find a proper metal for staying. The *Penguin* has twice broken stranded hard copper, after stretching it out of all recognition. Captain Burbank, however, has lately discovered a stranded bronze trolling line which promises to solve the problem. Another difficulty lies in the job of getting these big fellows in and out of the boat house. The door is only about 7½′ high, — and inasmuch as 90 pounds is too much to hoist and tilt (hard to apply your strength on a boat that has only 3/32″ planking) — it was necessary to evolve a "clothes-pin joint" in the mast. This permits the rig to be lowered away aft, so the boat can then be wheeled out of the house with ease.

W. H. MESEROLE.

National Championship and Elimination Races of the Model Yacht Racing Association of America

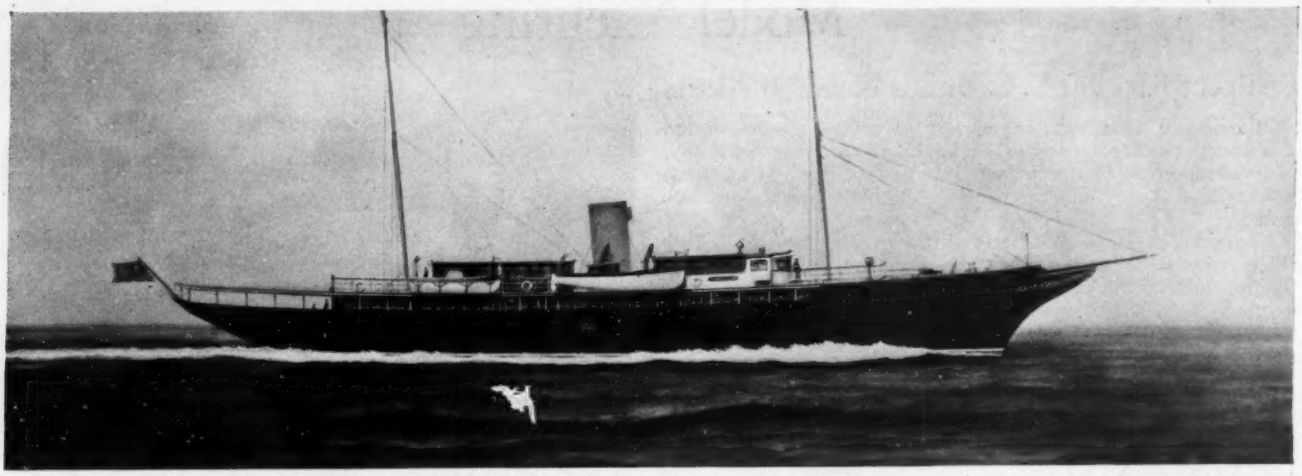
ON July 2nd, 3rd and 4th, at the Lincoln Memorial Reflecting Pool, Washington, D. C., will be gathered the best of the model yacht racing fleet of America to compete for the honor of representing the United States at the international model yacht races to be held at Gosport, England, August 4th, 6th and 7th.

For the past few months several new models have been taking shape and are now tuning up for this great event. Because of the wide distance separating several of the clubs of the Association, selection races are being held in different cities and the leading two or three models will be sent to Washington. Reports have it that the races this year will be the best ever held. Boston, Brooklyn, New York, Chicago, Toledo, Cleveland, St. Augustine, St. Petersburg, Providence, Detroit, and Washington will send representatives.

Across the water, England has had one big regatta in which a new boat was the winner. Germany has four new boats, three designed by well known yacht designers. France has several new boats and will hold elimination races.

The Washington Model Yacht Club, under the direction of its commodore, A. W. Payne, has a well organized group of committees to handle the eliminations.

A scale model of the famous American clipper ship *Red Jacket*, made by C. G. Davis. She was one of the largest and fastest clipper ships ever built, being 251 feet long and 2305 tons register. She was designed by Samuel H. Pook and built by George Thomas, at Rockland, Maine.



The twin-screw Diesel yacht *Camargo*, designed by Henry J. Gielow, Inc., for Julius Fleischmann, of Cincinnati, to be launched the latter part of this month from the Lawley yard at Neponset, Mass. She is 225 feet in length and will be powered with two 800 h.p. Bessemer engines.

Of Interest to the Skipper

The Skipper, A Consolidated House Magazine

YACHTING and the other boating magazines bid fair to have a formidable rival in a new booklet, *The Skipper*, published periodically by the Consolidated Shipbuilding Corporation, New York City. Not only is this little magazine, which will be published monthly, both clever and attractive, but it has several features which will prove interesting to the yachtsman. Chief of these is a calendar of yachting events of the month, called the Yachtmanak, gotten up in the form of a monthly calendar with the important events illustrated with thumb-nail sketches. Captain Penguin's sage remarks are also most amusing. The remainder of the four pages is given over to illustrations and description of recent Consolidated yachts, and new boat and engine development. *The Skipper* is being sent to clients and friends of the Consolidated Shipbuilding Corporation.

New Diesel-Powered Yachts

THE rapid increase in the number of Diesel-powered yachts can in no way be better indicated than by a glance at the list of new boats turned out this year, or building for 1928 delivery. The list includes yachts of all sizes and types, from 36 feet in length up.

Yacht	*Owner*	*Designer*	*L.W.L.*	*Make of Engines*	*No. of Engines*	*Total H.P.*
Amida	E. R. Behrend	Cox & Stevens	160	Krupp	2	800
Camargo	Julius Fleischmann	H. J. Gielow, Inc.	225.5	Bessemer	2	1,600
Colleen	S. A. Salvage	B. T. Dobson	139.7	Winton	2	1,200
Coronet	I. T. Bush	Cox & Stevens	150	Krupp		800
Cressida	Hermann N. Oelrichs	Cox & Stevens	125	Krupp	1	250
Cyprus	James Sherman	Cox & Stevens	206	Krupp	2	2,200
Fayne II	E. E. Jackson, Jr	F. C. Humphreys	52	Standard		
Haida		Cox & Stevens	178			1,500
Hardi Baiou	Dr. H. D. Lloyd	J. G. Alden	110	Winton	1	100
Illyria	Cornelius Crane	H. J. Gielow, Inc.	147	Bessemer	1	300
Idono	C. DeForest Cummings	F. C. Humphreys	39	Cummins		60
Katie III	R. E. Gregg	F. C. Humphreys	39	Cummins		60
Lone Star	G. C. Bourne	Cox & Stevens	160	Krupp	2	800
Memory III	A. E. Fitkin	Thos. D. Bowes	143	Bessemer	2	850
Nadji	B. C. Fincke	F. C. Humphreys	45	Buda		100
Nourmahal	Vincent Astor	Theo. Ferris	260	Sulzer		3,000
Ranelpe	Austin H. Perry	Luders Marine Const. Co.	95	Winton	2	400
Savarona	R. M. Cadwalader, Jr.	H. G. Gielow, Inc.	280	Bessemer	2	3,000
Sea Sales III	M. W. Sales	H. G. Gielow, Inc.	87	Bessemer	2	160
Vagabondia II	W. L. Mellon	Cox & Stevens	182	Krupp	2	1,600
Vanda	E. B. Dane	H. J. Gielow, Inc.	240	Bessemer	2	3,000
Voyager II	Eversley Childs		70	Fairbanks-Morse	1	40
Waleda	Walter H. Lippincott	Thos. D. Bowes	—	Bessemer	2	600
Cruiser	W. B. Hurst	F. C. Humphreys	38	Cummins		60
Cruiser	D. Walter Mabee	F. C. Humphreys	45	Buda		100
Cruiser	Alfredo Cernados	F. C. Humphreys	56	Cummins	2	120
Cruiser		Cox & Stevens	171	Krupp	2	
Ketch	Dickson B. Potter	F. C. Humphreys	48	Cummins	6	60

The Cummins Diesel Engine

The Diesel advantages of safety and economy have been known for many years, and increasing refinement of design has made these engines invaluable for the larger yachts, where they have practically superseded steam. But even here the design was rather complicated, much was left to manual operation, and the engines required the skilful supervision of a trained engineer.

As designs of engines for smaller boats, such as small commercial craft, were developed the same open construction and controls were retained and the small boat operator, due to daily contact with his engine, was sufficiently skilled to operate these motors.

In designing the Cummins engines it was necessary to invade a field strongly held by the gasoline engines, largely because of their lighter weight, more compact design, inherent cleanliness, and low first cost. These had the further advantage of being more or less familiar to the average layman, due to his experience with automobile motors.

How well the Cummins engines have combined the advantages of the former Diesel with those of the gasoline motor is apparent from a casual glance at this engine.

In the small engine design Cummins has the advantage of using conventional automotive machinery and production methods, with their perfect balance of parts and uniform machine operations, which assures replacement parts that fit, and reduces the cost of such parts. This was a great step towards bringing the first cost of the Diesel down to a price that compares favorably with the gasoline engine, and single block castings not only gave considerable longitudinal strength but also added to the compact design.

Comparable flexibility is obtained in the Cummins by the patented injector, which converts the fuel oil into practically a dry gas before it enters the cylinder where the heat caused by the high compression ignites it. By this method a more rapid combustion takes place than if the oil were not prepared before it is blown into the cylinder. The low pressure at which this oil is delivered to the injector permits of a very close metering of the fuel which is so essential for a smooth running small engine.

Starting is accomplished by means of a 12-volt starter. The starter does not turn the engine against compression, this being relieved while the starter turns the fly wheel a few times, when the compression is again retained and the engine starts by firing the first cylinder which comes up against compression. For this reason the current used is actually less than in the case of an engine as small as a Ford.

During the starting process, which may be accomplished from the bridge, no heat or other device is required, and all controls are centered in a single lever which can be connected for remote control.

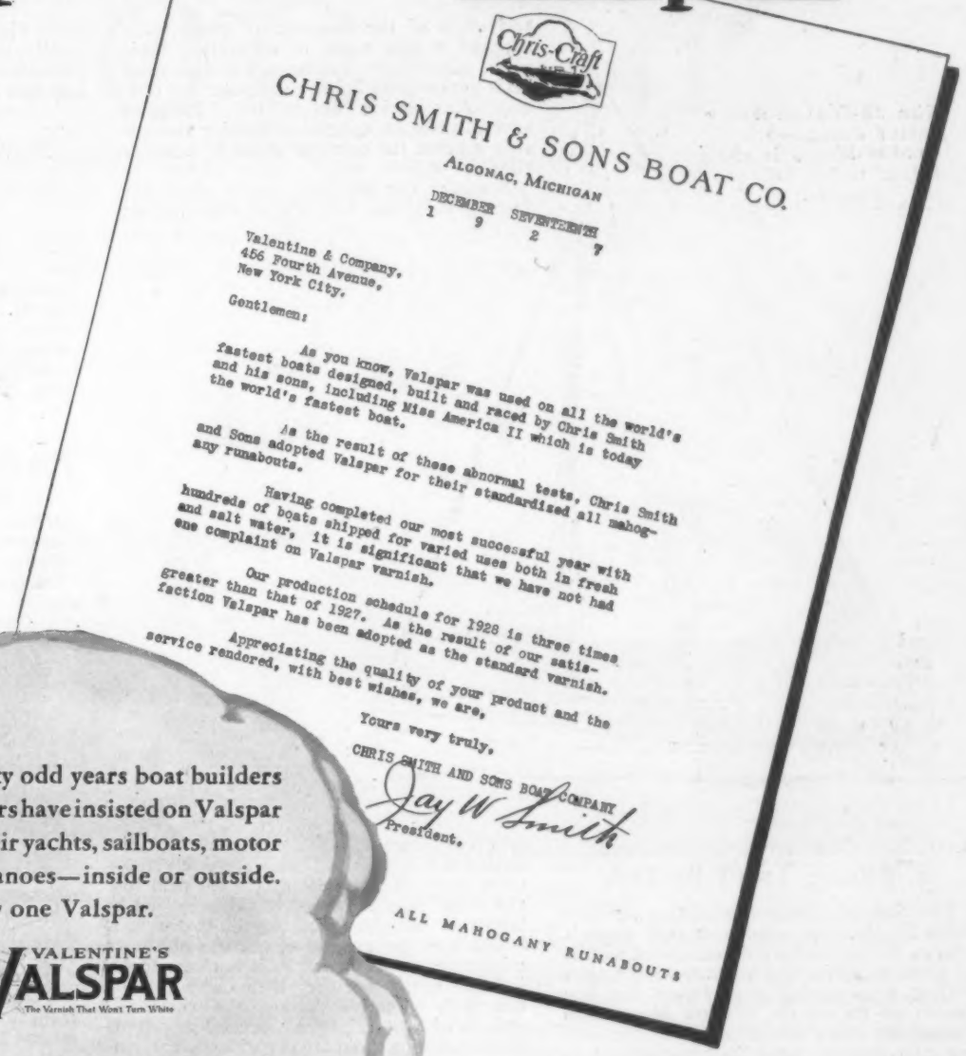
The full inclosed design together with the self-ventilating feature removes several objections held against Diesels. The inclosed parts are more noiseless and can be better lubricated and in Cummins engines all mechanical contacts, such as rocker arms, have an oil cushion.

Since there is a marked absence of delicate adjustments, the Cummins is not subject to breakdowns. The absence of carburetor and ignition devices eliminates two causes of stoppage at sea.

Many engines are being installed in boats as small as 35 feet in length and when one considers that the fuel cost per hour of a 4-cylinder engine driving the boat 12 m.p.h. is only twelve cents, it certainly explains the strong Diesel urge felt at the moment.

The Cummins Engine Company, Columbus, Indiana, will send literature to those interested in Diesel engines.

Chris-Craft specifies Valspar


Chris-Craft
CHRIS SMITH & SONS BOAT CO.
ALGONAC, MICHIGAN
DECEMBER SEVENTEENTH
1 9 2 7
Valentine & Company,
456 Fourth Avenue,
New York City.
Gentlemen:
As you know, Valspar was used on all the world's fastest boats designed, built and raced by Chris Smith and his sons, including Miss America II which is today the world's fastest boat.
As the result of these abnormal tests, Chris Smith and Sons adopted Valspar for their standardized all mahogany runabouts.
Having completed our most successful year with hundreds of boats shipped for varied uses both in fresh and salt water, it is significant that we have not had one complaint on Valspar varnish.
Our production schedule for 1928 is three times greater than that of 1927. As the result of our satisfaction Valspar has been adopted as the standard varnish.
Appreciating the quality of your product and the service rendered, with best wishes, we are,
Yours very truly,
CHRIS SMITH AND SONS BOAT COMPANY
Jay W Smith
President.
ALL MAHOGANY RUNABOUTS

FOR twenty odd years boat builders and owners have insisted on Valspar to protect their yachts, sailboats, motor boats and canoes—inside or outside. There is *only* one Valspar.

VALENTINE'S VALSPAR
The Varnish That Won't Turn White

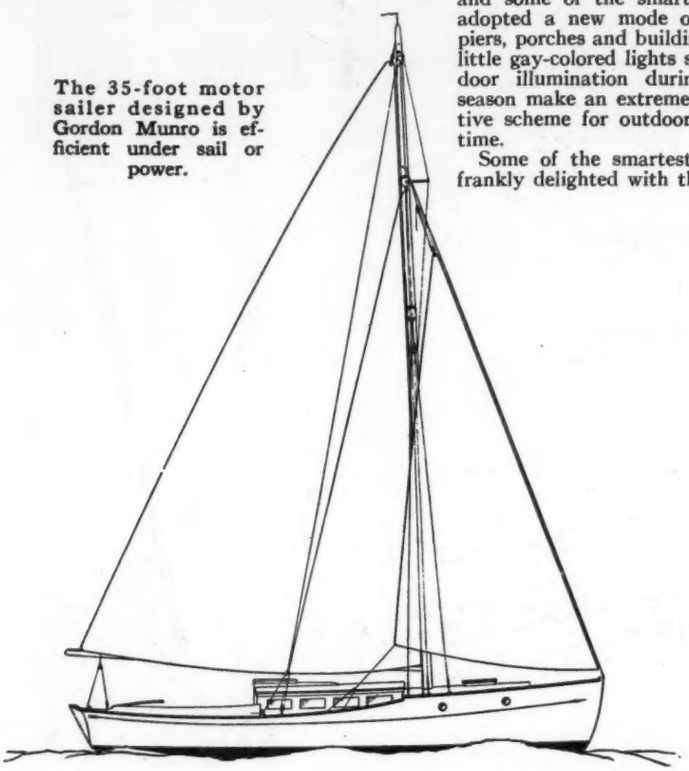
Photo by H. Rosenfeld

THE real test of a runabout is its constancy of performance—Chris-Craft more than meets this test by reason of sound design, perfected manufacture methods and use of Valspar on all varnished surfaces.

Large Yacht Diesels

The above is the title of a booklet recently issued by the Busch-Sulzer Bros. Diesel Engine Company, of St. Louis. The booklet contains excellent photographs of the Diesel engines manufactured by the firm which are designed for large yacht installation. The edition is limited, and those naval architects who have clients interested in the Busch-Sulzer Diesel Engine may, of course, obtain a copy upon request. It is interesting to note that the new motor yacht *Nourmahal*, designed by Henry J. Gielow, Inc., for Commodore Vincent Astor is Sulzer-powered.

The 22-foot Toppan family power dory.



The 35-foot motor sailer designed by Gordon Munro is efficient under sail or power.

Gordon Munro Joins Howard & Munro, Yacht Brokers

The firm of Howard & Munro, of 131 State St., Boston, announces that Gordon Munro, N. A., has become associated with it as naval architect and yacht designer, thus adding a designing department for the benefit of its clients. Gordon Munro has turned out many successful power and sailing craft, and has specialized particularly in motor sailers, which have become popular recently. The firm will continue also the business of yacht brokerage and insurance. One of Gordon Munro's latest combination power and sailing boats, a 35-footer, is shown in the accompanying sail plan. A complete description of this boat will appear in a future issue of YACHTING.

Howard & Munro have recently opened a Marblehead branch where they will occupy space on the water front, with an entrance on Front Street. They will represent Walter H. Moreton Corporation, Boston, and will display a full line of Matthews cruisers, Hacker Dolphins, Sterling Red Wing and Johnson outboard motors.

Decorating the Yacht Club

Yacht clubs and boating clubs have taken a leaf from the latest vogue in illumination and some of the smartest of them have adopted a new mode of decorating their piers, porches and buildings. The strings of little gay-colored lights so popular for outdoor illumination during the Christmas season make an extremely striking decorative scheme for outdoor clubs in summer time.

Some of the smartest yacht clubs are frankly delighted with the successful effect of these decorations. Of course the illumination of the piers and the waterside verandahs provides the most successful field for the color lights. Where illumination with lamps of standard size would prove too bright and too expensive, the use of these miniature lamps, in color, is both economical (the outfits use very little current) and extremely effective. The lamps come in strings of from eight to several hundred lamps per outfit and are surprisingly easy to put up and take down. Their applicability to waterfront clubs makes them a form of illumination and decoration which will undoubtedly prove widely popular.

The Noma Electric Corporation, 344 Hudson St., New York City, will be glad to supply full details regarding this modern lighting idea.

A Popular Power Dory

The Toppan Boat and Engine Co., Medford, Mass., have ready for immediate delivery several of their well-known 22-foot dory launches. These boats have a beam of 6 feet. The engine is installed under a house well aft. The cockpit is 10 feet long and carries 10 to 12 persons in comfort. The fact that the engine is so far aft assures an absence of noise and oil fumes. With a 10 h.p. Kermath 2-cylinder motor these boats will make 8 to 12 miles per hour.

This dory has proved ideal for use as a yacht club tender, and is also well suited to family use. The manufacturers would be pleased to send their literature to those interested.

New Plastic Wood Service

The Addison-Leslie Co., manufacturers of plastic wood, have added to their staff a consulting engineer who will specialize in the adaptation of plastic wood to construction and repair purposes for boats, particularly for those which the boat owner can make himself. The company will welcome all requests for information from individual owners, yards, or other sources. They should be addressed to Engineering Service Department, Addison-Leslie Co., Canton, Mass.

The Pioneer Magnetic Compass

The Pioneer Instrument Co., 754 Lexington Ave., Brooklyn, N. Y., manufactures the Pioneer Magnetic compass, which is fast becoming standard equipment on high speed runabouts and cruisers. This compass, originally designed for use in aircraft, was found to be most satisfactory for use on high speed craft. Literature will be sent to those interested in this modern steering instrument.

Shipmate Gas Ranges

The Stamford Foundry Company, Stamford, Conn., are shipping many of their new gas ranges to yacht owners who were quick to realize the advantages of this type of galley range.

These ranges burn Shipmate gas, a non-poisonous fuel, supplied in steel cylinders, which may be obtained at every port on the Atlantic Coast, the Great Lakes, and the Gulf Coast.

The illustration shows one of the most popular sizes, and the line embraces ranges from the small hot plate size to those for the largest yacht.

Shipmate range for yacht use, designed to use Shipmate gas.

The most remarkable value afloat today, the a.c.f. "41"

TWO cabins, each with large lavatory
TWO spacious decks ▾ Mounted dinghy
Complete equipment, china, linen, silver
▾ The whole for LESS THAN $12,000 ▾

[The A. C. F. "41"—powerful, graceful, staunch, seaworthy]

COME ON, you Old Salts! Bring out your blue-prints and your catalogs; dust off your memories; let's make some profitable comparisons.

Compare this A.C.F. "Forty-one," at its price of less than $12,000, with any other craft afloat. Length for length, beam for beam, design for design, you'll admit that there is nothing to touch her.

Bridge-deck raised amidship, with heavy plate-glass shields at front and sides, with scientifically correct navigating instruments, with deeply padded leather seat, and with plenty of room for deck chairs . . .

Her cockpit, comfortably shielded in the stern, with all the room anyone could ask . . .

Her master cabin with two wide berths and a spacious lavatory and a forward cabin sleeping four and also having its own lavatory.

Her galley is a revelation of compactly efficient design; 3-burner stove, ice-box, sink, drain-board, and plenty of pantry cupboards.

Needless to say, there are commodious clothes-lockers and other stowage space.

From stem to stern, the "Forty-one" is complete, ready to slip in the clutch and cruise—china, glassware, silverware, linen, kitchen accessories, and a carefully planned collection of deck equipment that surprises one by its completeness. Literally, there is nothing left to buy. The "Forty-one" is *complete*.

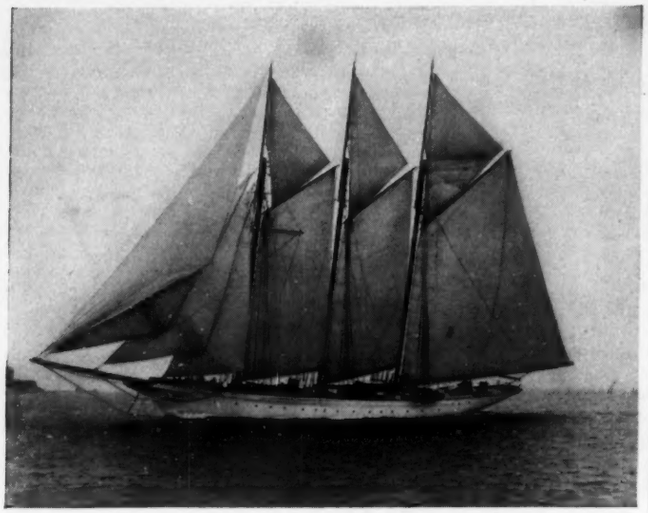
Her 100 H. P. Hall-Scott reduction-gear motor kicks her 41 graceful feet along at 15-16 miles per hour (or at 20 miles if you wish an LM-6 Hall-Scott at slight additional cost).

Surely, you never before were able to buy so *much* boat for so small a price. But we cannot tell you. You must see for yourself. There's an A. C. F. Salon within reach of you. Drop in. If you cannot, then write at once for complete details.

a.c.f.

A. C. F. New York Salon, 217 W. 57th St.
AMERICAN CAR AND FOUNDRY COMPANY

BOSTON: Noyes Marine Sales Co., 1037 Commonwealth Ave.—DETROIT: A. C. F. Salon, 500 E. Jefferson St.—CLEVELAND: M. J. Shea, 1424 Lauderdale Ave., Lakewood—SAN FRANCISCO: S. C. Kyle, 427 Rialto Bldg.—PHILADELPHIA: Universal Motor Service Co., N. Broad and Wood Sts.—CHICAGO: Ward A. Robinson, 58 E. Washington St.—WEST PALM BEACH: C. P. Whitney, c/o Bryant & Gray—WILMINGTON, DEL.: American Car and Foundry Co



Yacht Alcyone, designed by Tams & King

Increased

Comfort
Reliability
Living Space

DIESEL ELECTRIC drive insures cleanliness and, through advantageous distribution of machinery weights, more space for living quarters and good "sea boats" in heavy weather.

The multiple generating units of a Diesel electric installation also assure maximum operating reliability.

Diesel Electric Yachts Equipped by Westinghouse

Name	Type	Owner
Aloha	Aux. Bark	Arthur Curtis James
Guinevere	Aux. Schooner	Edgar Palmer
Alcyone	Aux. Schooner	Henry W. Putnam
Cutty Sark	Aux. Schooner	Alexander Smith
Valero II	Cruiser	Capt. Allen Hancock
Elfay	Aux. Schooner	

Send for Special Publication 1776 describing Westinghouse Diesel electric installations in several famous yachts.

Westinghouse Electric & Manufacturing Company
East Pittsburgh Pennsylvania
Sales Offices in All Principal American Cities
Service Stations in All Principal American Ports

Westinghouse

X98112

Hard Learned Lessons

(*Continued from page 64*)

there like a setter dog pointing a bird and shook her sails as much as to say: "There's what you want, you dumbbell! Look and see."

I did look, and saw the number on the buoy.

If there had been anyone to hear I would have shouted with glee; but as it was, I just patted *Celeste's* smooth oak tiller and told her what a wise old girl she was — though I suspect she knew that well enough all the time. Thanks to the buoy being numbered it took only a moment to find it on the chart. It was the outer one of two off the entrance to Milford harbor and the distance between them was only about two miles. While *Celeste* lay practically hove-to, I got down on the floor of the cockpit and laid off the course. Then we swung off — and a grand sleigh ride we did have! With sails rap full and only her full, high bows keeping her from running under, we coasted down those racing, foam-capped seas faster than we had ever gone before. I never took my eyes from the compass until the second red buoy leaped out of the mist ahead. We swung off still more then — dead before it — and in a minute or two made out the jetties on either side of the harbor entrance. It is only a small place, and I was so preoccupied with steering through safely and not jibing that I did not notice what lay beyond. Indeed, my mind had been so busy with finding the harbor that I had paid no attention to the place itself. Now, as we shot through with a gale of wind at our stern, I saw it was low tide and nothing but mud flats inside.

It could not be helped; there was no chance to turn, much less round up, in that narrow creek that meandered across the mud. Up came the board, and up went *Celeste* on to the mud. I braced for the shock, expecting to hear the mast go with a crack, but there was none. She slid along and came to rest as smoothly and quietly as a sled. The sails still stood taut and the old boat seemed to stifle a yawn as she rolled down gently on her wide and ample bilge. I went forward and dropped the anchor with a plop into the mud. It took a few minutes to get the sails down with the strain that was on them. Quite an audience collected on the nearest pier.

"Reckon you must be well acquainted t' come rammin' in like that in a fog."

"Well, well, them buoys is good fer somethin', ain't they? I didn't cal'late a body c'd find 'em if ever there wuz need."

"Is this the boat that feller came ashore from and sez was lost 'cause he couldn't find her no more?"

The last question brought me up with a start. And, glory be, there was old Mase coming down the pier on the double, with Larry behind him! He stopped short at the end and looked disconcertedly at the acre of mud flats between us.

"Where the H—— did you leave our boat?" was my captainlike greeting.

He had to shout his reply and the assembled multitude to my chagrin heard and enjoyed it. It appeared that, having gotten ashore, he found nothing but beach and a stray dog, who could not tell him where he was. Proceeding down shore until he discovered life, he found himself on the outskirts of Milford, so it seemed as well to go up town and see if our friend had arrived. He had, and together they strolled back, having stocked up with essentials of food and drink for the voyage. They were thinking how glad I would be to see them and were making such speed with their assorted plunder as they could, while I was blowing my lungs out on the fish horn. Reaching the beach and the dink they were surprised and a little nonplussed to find a stiff breeze and an active surf. Nothing daunted, however, they launched the boat and rowed out, but could not find me because by that

more world's records

FREE!
—this beautiful 32-page Evinrude Year Book describing Speeditwin 16 H. P., Fastwin 12 H. P., Fleetwin 6 H. P., Sportwin 2½ H. P., Any speed from 3 to 35 M. P. H.

SPEED

34.46 MILES PER HOUR with Speeditwin

ANOTHER page in the book of Evinrude achievements — again Evinrude breaks its own record of 32.75 M. P. H. made at Palm Beach, Fla., Feb. 22, by setting a new world's speed record of 34.46 miles per hour over 5 miles permanent, official course at San Diego, Calif., April 23.

Fire Flay, driven by Charles Holt, set this terrific pace. The event was electrically timed under the supervision of Lieutenant Commander Angus of the U. S. Navy. Evinrudes took FIRST, SECOND, THIRD — were far in the lead.

Before experts, who find it hard to believe that such super-speed and superformance are possible with stock-model motors, the winning Evinrudes were taken down and found to conform part by part with stock-model specifications.

In speed, in pleasure, lead the field with an Evinrude. A model for every boat and buyer. Convenient time payments.

ENDURANCE

133 MILES Albany to New York in 4 hours 27½ minutes

Evinrude First, Second, Third, Fourth, Fifth, Seventh, Eighth, Ninth and Tenth in this new speed-endurance event which newspapers and news reels recognized as the most outstanding of all outboard motor events thus far conducted.

Earl Widegran of Locust Valley, driving Baby Olds, shown below, and powered by a *stock model* Evinrude Speeditwin, led the field of over 90 entrants with elapsed, record time of 4 hrs. 27½ minutes, making the almost unbelievable speed of 29⅞ miles per hour for 133 miles, April 22nd. The first place Evinrude came in 20 minutes and 40 seconds ahead of any other make of motor.

Friction-Reducing Ball and Roller Bearings on Connecting Rods, Crankshaft, Drive and Propeller Shafts—an important, original and exclusive Evinrude Speeditwin and Fastwin feature.

EVINRUDE

EVINRUDE MOTOR COMPANY
1517 27th Street Milwaukee, Wisconsin

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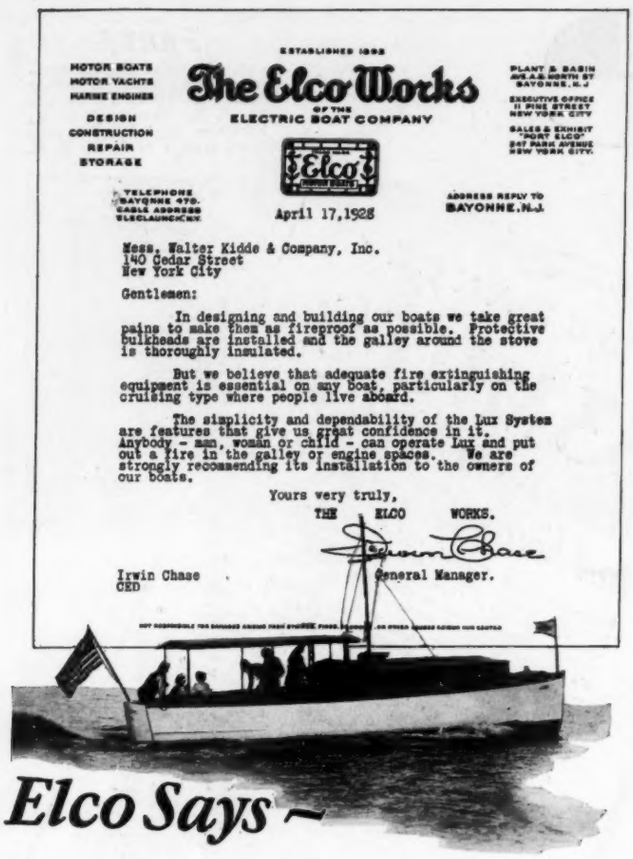
115 E. 23rd Street	New York City	79 Columbia St.	Seattle, Wash.
259 Atlantic Avenue	Boston, Mass.	6304 E. Jefferson Ave.	Detroit, Mich.
	64 King St., W.	Toronto, Ont., Canada.	


ESTABLISHED 1893
MOTOR BOATS
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REPAIR
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ELECLAUNCH, NEW
April 17,1928
ADDRESS REPLY TO
BAYONNE, N.J.
Messs. Walter Kidde & Company, Inc.
140 Cedar Street
New York City
Gentlemen:
In designing and building our boats we take great pains to make them as fireproof as possible. Protective bulkheads are installed and the galley around the stove is thoroughly insulated.
But we believe that adequate fire extinguishing equipment is essential on any boat, particularly on the cruising type where people live aboard.
The simplicity and dependability of the Lux System are features that give us great confidence in it. Anybody - man, woman or child - can operate Lux and put out a fire in the galley or engine spaces. We are strongly recommending its installation to the owners of our boats.
Yours very truly,
THE ELCO WORKS.
Irwin Chase
CED
General Manager.

Elco Says ~

"Anybody — man, woman or child — can operate Lux and put out a fire in the galley or engine space."

Lux is released by just a pull on the control handle located outside of the protected space — safely away from the smoke and flames. Then the piping system does the rest and in five seconds the fire is out.

The Lux System is just as simple to install as it is to operate. Hundreds of boats ranging from small runabouts to yachts like the "Savarona," "Nourmahal," "Delphine" and "Cressida" are Lux equipped. Over 500 vessels in the United States Navy and Coast Guard are fitted with this simple and positive fire protection.

A Lux System is available to safeguard your boat, no matter what type it may be. A card will bring full information.

Walter Kidde & Company, Inc.
140 Cedar Street
New York

LUX

Underwriters' Labeled Yacht
Fire Extinguishing System

time I had gone. The boat was now back on the beach with the supplies all ruined by sea water — except those which were put up in bottles. They brought these along; the rest we salvaged next day.

The mistake seemed to be a natural one and I don't quite know whose the fault was. We all had a few bad hours and the initial error seems to have been letting Mase go ashore. At any rate, I determined never again to be separated from my crew in thick weather.

Recent Yacht Sales

Reported by Lloyd's Register of American Yachts

Presque Isle, 85′ power cruiser. Sold by H. K. Blond to Theodore Krumm, Villa Rosa Park, Fla.

Ranier, 65′ power cruiser. Sold by Seattle Brewing & Malting Co. to F. M. Grenfell, of Seattle, Wash., and renamed *Hiawatha*.

Ripogenus, 49′ power cruiser. Sold by Ray L. Scofield to Karl W. Corby, of Washington, D. C., and renamed *Sea Eye Sea II*.

Venetia, 70′ power cruiser. Sold by G. W. Gugle to E. S. Griffiths, of Miami, Fla.

Vagabond, 52′ power cruiser. Sold by Norman A. Pabst to S. E. Allen, of Los Angeles, Calif.

Venetia, 196′ power yacht. Sold by John D. Spreckles to James Playfair, of Midland, Ontario.

Shrimp, 38′ Matthews cruiser. Sold by Harrison S. Morris to Roy A. Rainey, of New York City.

Nourmahal, 151′ power yacht. Sold by Col. H. H. Rogers to William Boyce Thompson, of Yonkers, N. Y., and renamed *Lotawana*.

Empress, 37′ auxiliary schooner. Sold by Benjamin C. Fincke to Frank H. Holly, of New York City.

Betty Jane, 50′ power cruiser. Sold by Howard W. Lester to S. Hart, of New Britain, Conn.

Swanee, 43′ power cruiser. Sold by Frederick P. James to M. Keith Dunham, of Chicago.

Jane C., 75′ power cruiser. Sold by Frank E. Campbell to Franklin C. Edson, of New York City, and renamed *Cyvir*.

Gossoon, 26′ sloop. Sold by Charles F. Adams, of Boston, to Thomas P. Archer, of Detroit.

Red Feather, 45′ power cruiser. Sold by E. T. Affleck to Stuart Bates, of Poughkeepsie, N. Y.

Ranger, 33′ Elco cruiser. Sold by H. Martyn Baker to E. G. Herzfeld, of New York City, and renamed *Jimanee*.

Papoose, 31′ cutter. Sold by C. F. Broughton to Dr. Richard Dresser, of Boston.

Naviator, Victory Class sloop. Sold by John J. Atwater to Howard L. Curry, of Port Washington, L. I.

Clio, Six-Metre Class sloop. Sold by H. M. Curtis to Charles Langlais, San Francisco, and renamed *Corinthian III*.

Nirvana, 42′ auxiliary schooner. Sold by Arthur Willis to Alvin O. Portner, of Annapolis, Md.

Pixie, 41′ power cruiser. Sold by Mrs. Edward Browning to J. T. Schwartz, of Jenkinstown, Pa.

Dirigo, 41′ Elco cruiser. Sold by Frank S. Shaw and Leon A. Andrus to E. H. Townsend, of Brooklyn, N. Y., and renamed *Florance*.

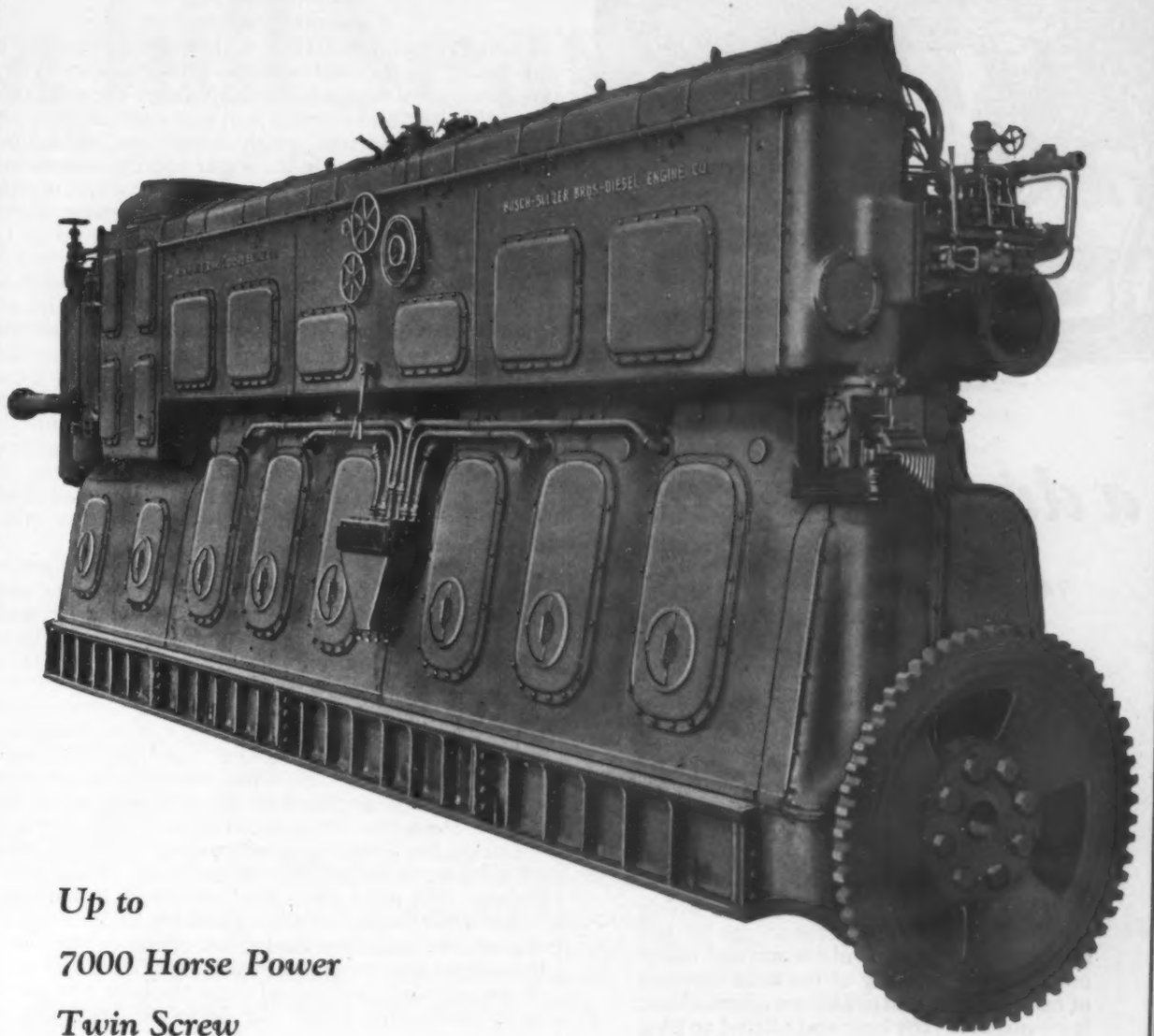
Ilse III, 64′ power cruiser. Sold by F. T. Lerch to David Schane, of New York City.

Seriola, 32′ auxiliary schooner. Sold by Morton Waddell to H. Alan Dawson, of Philadelphia.

Kittiwake, 40′ Elco cruiser. Sold by Edwin L. Arnold to Max Glasel, of New York City.

Bee, 58′ power cruiser. Sold by Est., Jay A. Mellish to Alan Macfarlin, of New York City.

Bonetto, 46′ power cruiser. Sold by C. S. Chace to W. S. Murchinson, of Raleigh, N. C.



Up to

7000 Horse Power

Twin Screw

Oldest American Builders

SULZER

Two Rector St., New York **Rialto Bldg., San Francisco**

SALES OFFICES

a Storm.. a damaged hull...

74 Patches Thursday Morning
Varnished Thursday Noon
Entered in Saturday's Races

PLASTIC WOOD
Reg. U. S. Pat. Off.

Handles Like Putty — Hardens Into Wood

Here is an incident, told in a letter dated September 2, 1927 from Hardwood Products Corporation, Neenah, Wis., showing what can be done with Plastic Wood.

"During the recent Inland Regatta which was held on Lake Winnebago one of the sail-boats was wrecked in a storm and badly pounded. The owner of the boat was one of our directors and when we heard about it we inspected the boat and offered to plug the holes with Plastic Wood and get the boat into the race. He was very skeptical of the whole operation but allowed us to make the attempt. We put in seventy-four patches in the hull of the boat on Thursday morning; the boat was varnished Thursday noon, and entered the race Saturday and sailed the entire week. The owner advises that it did not leak a drop during the whole Regatta. Practically all of the patches were put in holes which went way through the boat, which is made of 3/8" Spruce."

Of course every boat is not punched full of holes, but every boat does need repairs at some time or other—often unexpectedly. There may be splinters, cracks, gouges, holes or breaks. That's when Plastic Wood is needed.

At Ship Chandlers, Hardware and Paint Stores

1 lb. can $1.00 ¼ lb. can 35 cts.

Addison-Leslie Company, 43 Bolivar St., Canton, Mass.

Waterproof Oil Proof

Handles Like Putty *Hardens Into Wood*

Early Experiments with the Bermudian or Jib-headed Rig

(*Continued from page 58*)

During the winter of 1894, with a view to entering first class racing, further and extensive alterations were carried out. All external dead wood was cut away. The whole of the internal ballast and external lead keel were removed and a lead fin of only two tons' weight substituted, the lightened hull rising some inches in the water and the extreme draft being increased to six feet six inches. A new suit of canvas was supplied, the mainsail being of batswing form as shown on Fig. 4, bringing the total sail area up to 1,000 square feet, and the length and sail area rating to 5.5.

The two upper battens of the new sail extended right across it, being much thinned down towards the mast, where each was bolted to a stirrup of light galvanized steel sewn to the luff rope, and turning with it on two of the track clips to which it was loosely secured by a couple of light shackles (Fig. 9). There were three shorter lower battens which for convenience were slipped into their pockets from the inside ends. As a result of these changes the close-windedness and speed of the boat were markedly increased and the added buoyancy had changed her from a wet into a dry vessel, whilst her stiffness appeared to be ample.

Zephyr now entered on the most successful period of her racing career, a series of victories culminating in 1896 in her winning the championship of New Zealand and the accompanying $500 prize. Her competitors in the race, which was sailed in a strong breeze, were from three to four times her tonnage. Two years later, being outclassed by change of the measurement rule, she was cut down for cruising and made several extended coastal cruises, proving in her new trim an excellent sea boat. She was sold by the writer in 1899 and a few years later was converted into her present form, that of a seagoing motor fishing launch. She is now 49 years old and still in active service.

During the time *Zephyr* was owned by the writer careful tests were made with the batswing, jib-headed with battens, and plain jib-headed mainsails, in smooth and rough water, and as nearly as possible under similar conditions, the batswing having on occasions the first reef in to give equal areas. The results were distinctly in favor of the batswing; with equal areas the boat was decidedly faster and stiffer under the batswing, especially when reaching.

The whole batswing, though heavier and nearly 100 square feet greater in area, could be carried quite as long as either of the other sails, between which there was in this respect little difference. The batswing was closer winded than the short battened sail, which in turn was better than the sail without battens.

From these tests, the sailing of some 60 or 70 races, and some thousands of miles of cruising on a stormy coast, the writer arrived at the following conclusions regarding the Bermudian rig: that for small racing yachts, say up to 20 or 30 tons T. M., it is undoubtedly the fastest rig; that the batswing is distinctly faster than the jib-headed type, but is impracticable for racers of over 15 tons T. M., or for any size cruiser; that the jib-headed type is an excellent rig for day boats cruising in comparatively smooth water; that the inherent defects of the rig render it unsuitable, if not dangerous, for single-masted seagoing cruisers, but that in the two-masted type some of these defects disappear; that it is more suitable for light than for heavy displacement craft on which it is difficult to put sufficient sail without excessively lofty sticks.

Commenting on the above, it may be mentioned that though the writer has owned four yachts since the *Zephyr*, designing two and completely resparring, rigging and canvassing the two purchased, he has not returned to the Bermudian rig.

a full Season's Use/

Buy Your Chris-Craft NOW and make sure of it-

Once again, spring is here with its age old invitation to get outdoors—to shake off the shackles of winter—to open up the summer cottage—fish, play golf—go boating, camping, picnicking, swimming and aqua-planing.

Get your Chris-Craft *now* and enjoy a full season's use. Spend your leisure summer hours on the water. Enjoy the new water born freedom which only a Chris-Craft can give you.

See the new Chris-Craft line at your nearest dealer's. Ask him to give you and your family a demonstration ride. Note the increased power, speed, seating comfort and refinement of finish provided in the new 1928 models.

As the world's largest builders of all-mahogany runabouts, we are producing this year the greatest runabout values ever offered the boating public. Volume production and standardization have made Chris-Craft leadership more pronounced than ever.

Eleven Models—Including Two New Sedans

You may select the Chris-Craft best suited to your individual needs from a complete line of eleven models, ranging in length from 22 to 30 feet, in seating capacity from 8 to 14 passengers, in speed from 30 to 45 miles an hour, and in price from $2235 to $9750.

Included in the line are two new sedan models with permanent, custom built cabins as illustrated on opposite page.

Many new dealers have been appointed recently, thus making inspection and demonstration still more convenient. If there is no Chris-Craft dealer in your city, mail the coupon or write us and we will give you the name of one nearby.

Order now to insure delivery. Even with our tremendous capacity, we are unable to accumulate stocks for future delivery. See your dealer without delay.

CHRIS SMITH & SONS BOAT CO.
406 Detroit Road . . . Algonac, Michigan

Craft

MAHOGANY RUNABOUTS

MAIL THIS COUPON TODAY

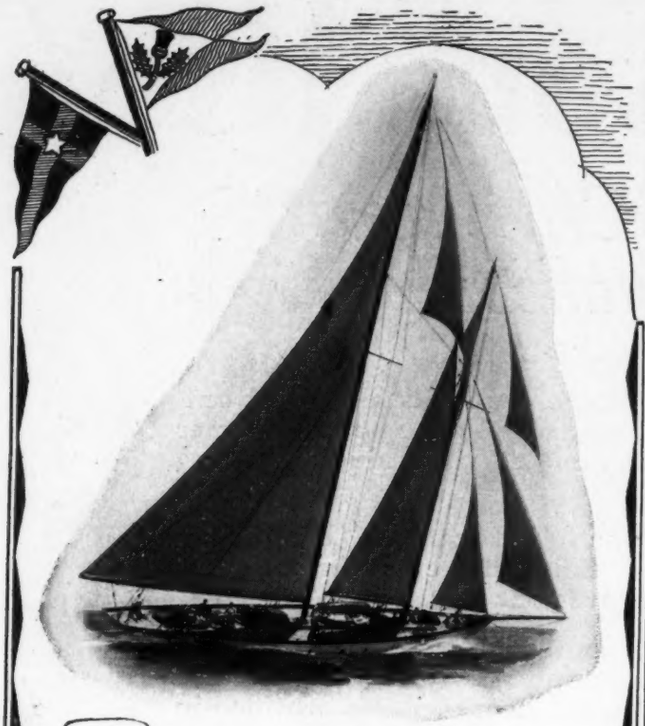
CHRIS SMITH & SONS BOAT CO.
406 Detroit Road, Algonac, Michigan

Gentlemen: Please give me the name of your nearest dealer.

Name _____

Address _____

City _____ State _____



"QUEEN MAB"
Owner Horace Binney, Esq.

BRENNIG'S OWN flag cigarettes are hand rolled from the finest Turkish tobaccos. Packed in sealed tins of 100 with plain, gold, straw, cork or platinum tips. Any color flag combinations can be used.

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King Size
$65.00 per 1000

Regular Size
$45.00 per 1000

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TRADE MARK

"The original brush end cigarette"

BRENNIG'S OWN—FLAG DEPT.
501 Fifth Ave., At 42nd Street, New York City

A Sea Scout's Cruise to the Arctic

(*Continued from page 51*)

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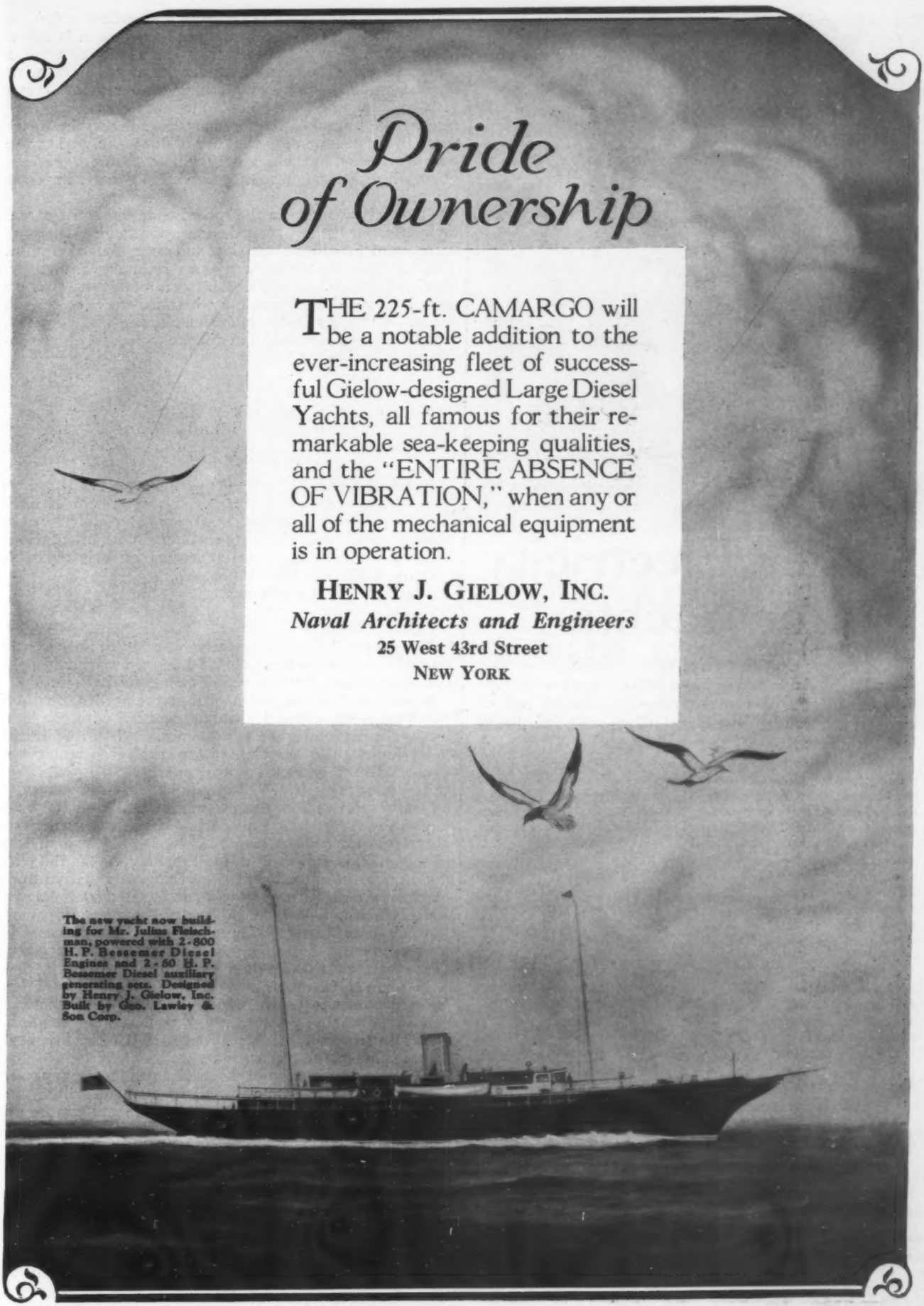

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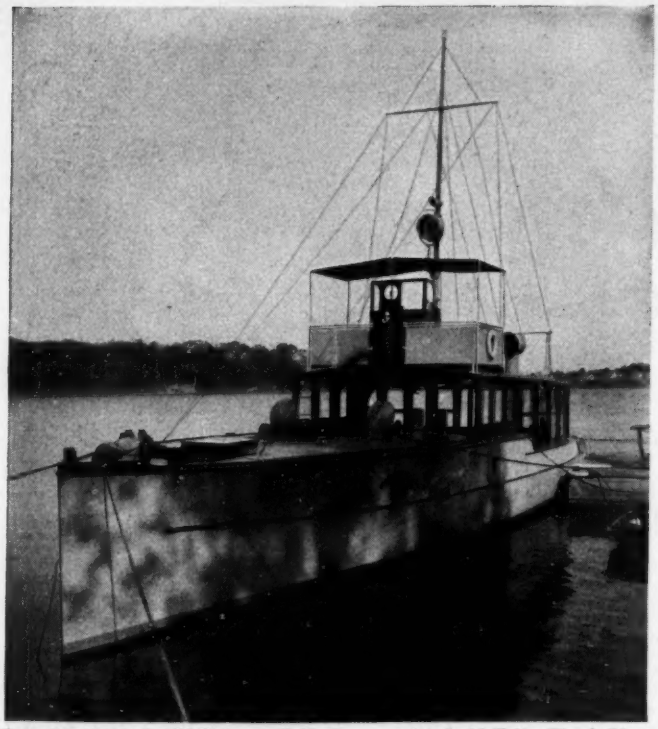

Yacht FAN KWI, *Col. H. H. Rogers, N. Y., Owner; equipped with Kohler Electric Plant*

Kohler Electricity for Yachts

IF you want electric service as convenient, complete, and dependable as you have in your home—for brilliant light and to operate electrical appliances of various kinds; if you want to save space and expense, you should find out about Kohler Electric Plants.

They have balanced, smoothly running, four-cylinder engines and oversize generators. Some models have no storage batteries—starting battery only. They start, operate, and stop automatically, whenever any electric light or appliance is turned on, and supply 110-volt current direct from the generator.

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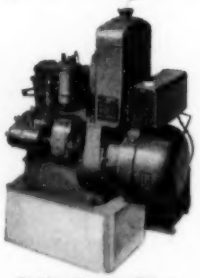

Kohler Electric Plant
Model D
1½ K.W.; 110 Volt D.C.

Kohler Co., *Founded 1873*, Kohler, Wis. *Shipping Point*, Sheboygan, Wis.

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KOHLER OF KOHLER

Electric Plants

Automatic—110 Volt D. C.—No Storage Batteries

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few weeks on the Alaskan Peninsula, and on September 1st we put out to sea for the last leg of the voyage! It was a fitting close. Heavy seas and stray winds followed us, and we roared down the latitudes under the stays'l alone, with a great wake boiling and seething at our stern. I can vividly remember, on those moonlit nights, leaning against the pinrail of the foremast listening to the water surge in the scuppers, to the roar of our wake, and to the roar of the wind in the rigging. I will never forget the kick of her wheel as I sought to keep her on the course. That was sailing!

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Rough Sledding with *Mary*

(*Continued from page 62*)

they were spawned. Turtles bury their eggs in the same tropic beaches every season. If all creatures are vouchsafed this faculty, then why not men? Why should we not possess some measure of the same gift of orientation?

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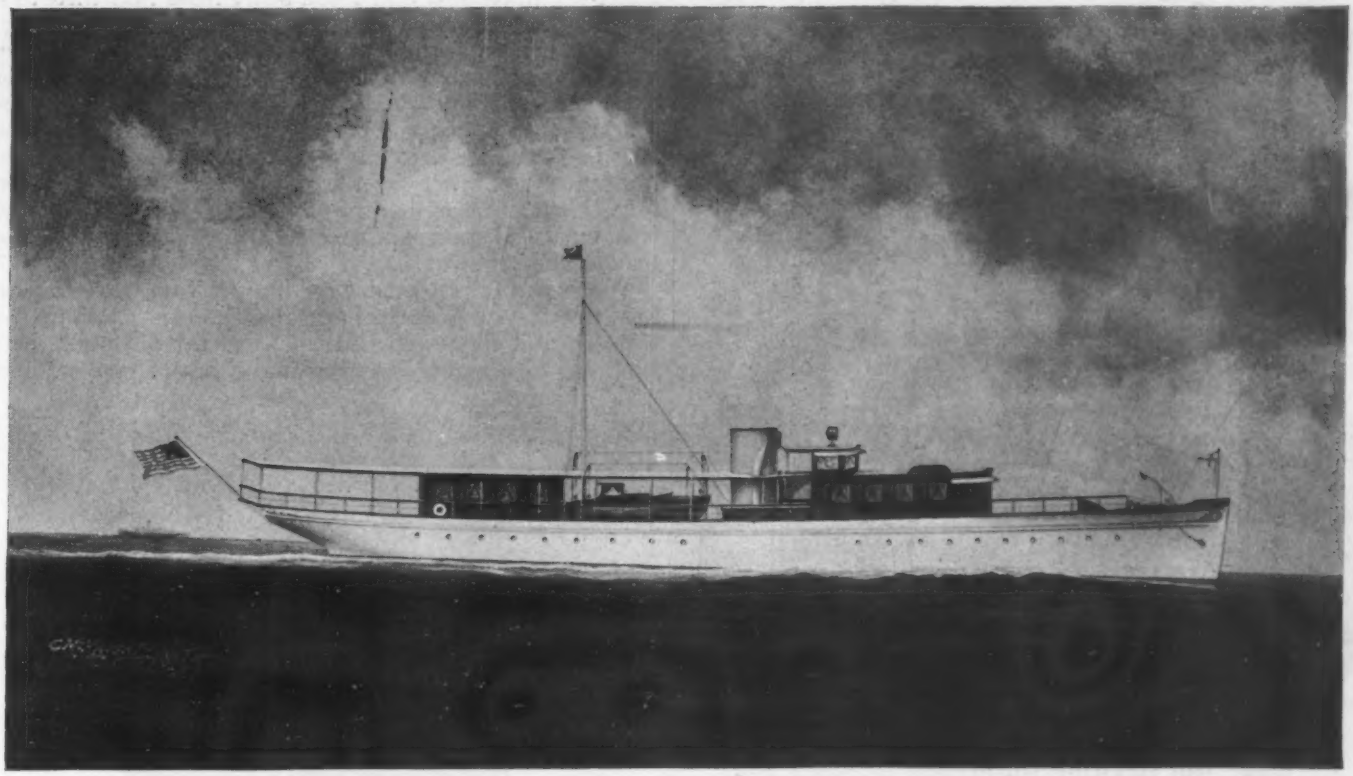

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Order now to insure delivery. Even with our tremendous capacity, we are unable to accumulate stocks for future delivery. See your dealer without delay.

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406 Detroit Road , , , Algonac, Michigan

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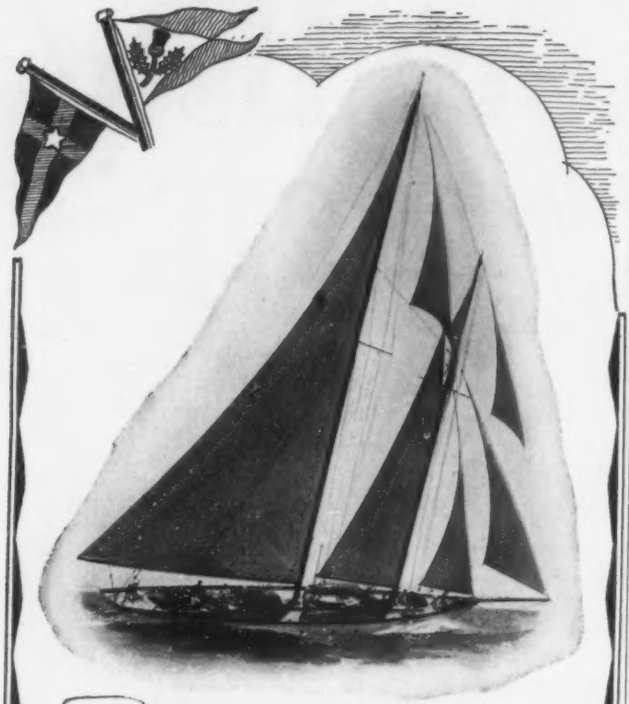

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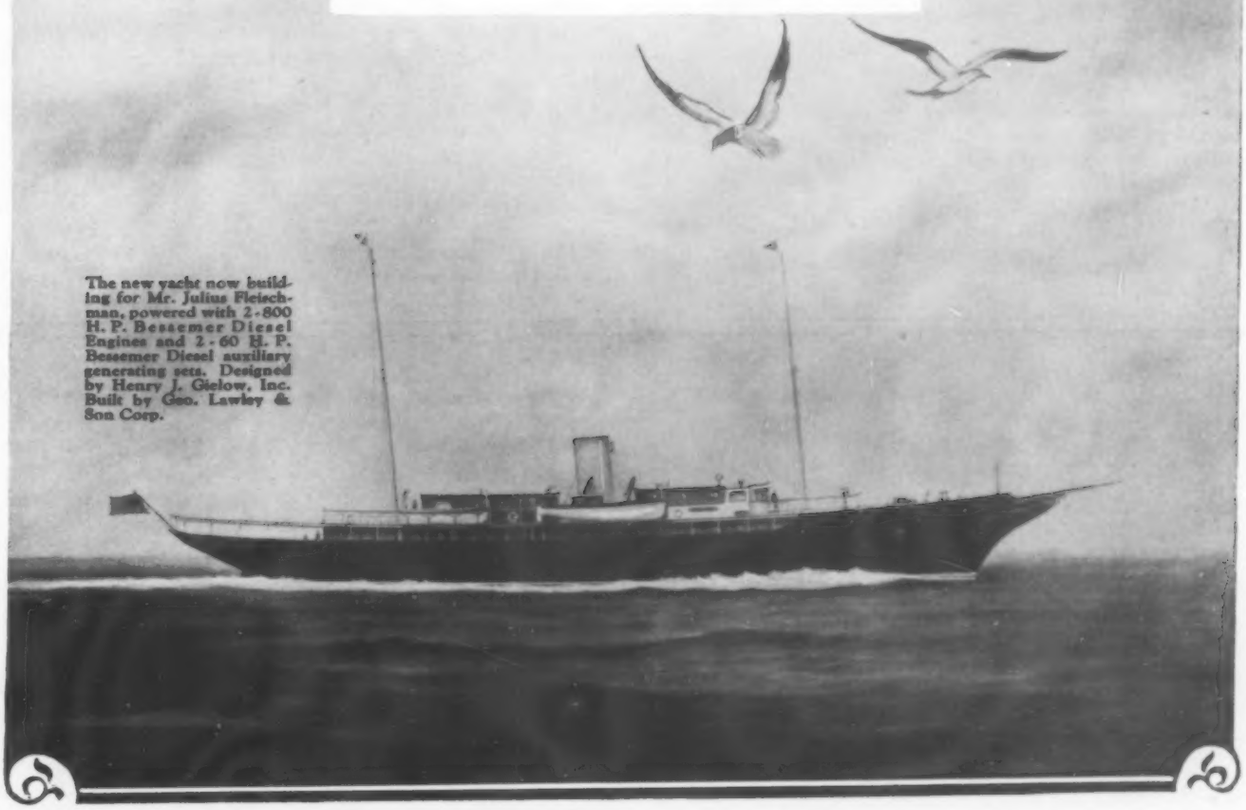

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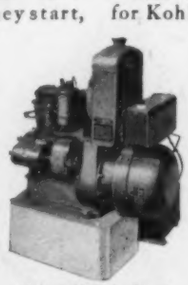

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Name..... *Street*.....

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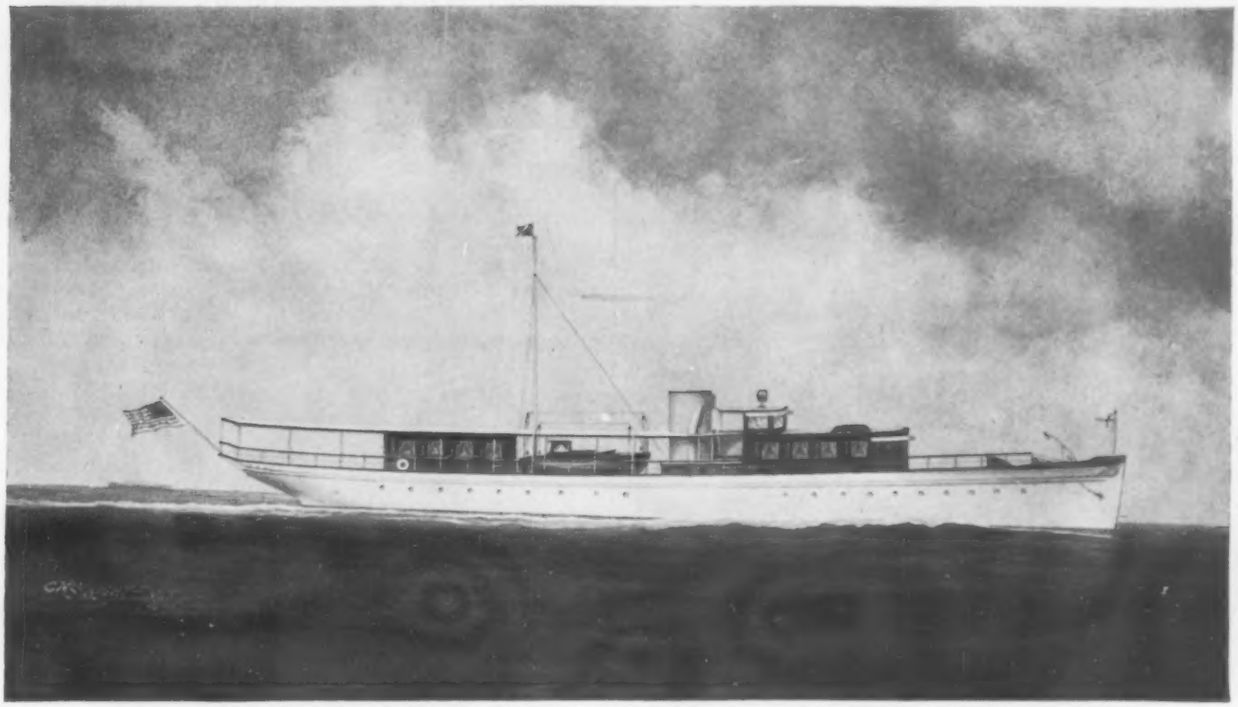

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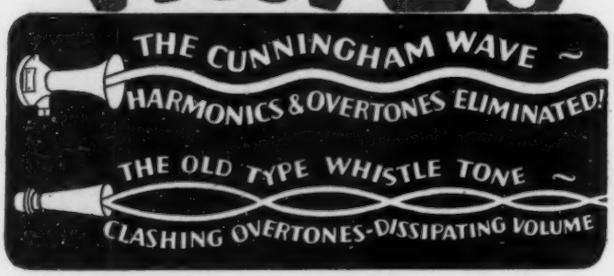
DIESEL ENGINES

Whistle sound waves



THIS diagramatic drawing illustrates the startling difference between the far-reaching sound waves of the famous Cunningham Air Whistle and the weaker waves discharged from the ordinary obsolete-type whistle or horn.

Unlike old type signals, with their clashing jumble of interfering sound waves, Cunningham Whistle wave-lengths are all equal and of exact intensity, producing enormous sound volume at minimum air-pressure . . . capable of penetrating 12 miles . . . and more!

The scientific Cunningham is simplicity itself —only *three parts* . . . is indestructible and fool proof . . . operates on from 10 lbs. to 250 lbs. air-pressure—using *one-tenth the energy* usually required . . . cuts densest fog—bringing back booming echoes. Under *all conditions* the Cunningham has proved its superiority over *all* other known signal devices!

A size for every class of craft afloat . . . for docks, busses, airplanes, locomotives, crossing signals, factories—in use wherever you *must* be heard.

[*For economy, buy the whistle with pressure storage tank complete*]

Write to nearest address for booklet, describing your needs!
Please quote Dept. Y6

ALLAN Cunningham

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Fairbanks, Morse & Co., Boston, New England Distributors
Geo. H. Jett, 526 Columbia St., Brooklyn, N. Y. Distributors

wheel up, jibed over and stood away from that threatening growl.

The dawn came reluctantly, unlike the tropics where it is wont to blaze out with glory. Heavy cloud masses clogged its advent. When it was fairly light I called Quinton and told him to get a real first chop breakfast. The eggs had long ago been converted into calories, which did not matter, as otherwise they must have been converted into chicks. But we had plenty of bacon and coffee and corn meal and spuds and kippers and things, which I had loaded aboard in bulk.

We gave *Mary* a little "redding up" on deck and below, put the cabins shipshape and Quinton made up my sopping and mildewed bed, for it is a real double bed, built in, with spring mattress and a heavy hair one and

Life lines rigged on *Mary*.

sheets and pillow slips and things. If you are going to live for months on end aboard a boat, why not be comfortable? Also, a burdensome boat is spacious below, if not foolishly cut up into cubby-holes. When finally we were all shipshape and proper, we started in under sail and power from where we had been standing off-and-on, about five miles offshore. It was a pleasant morning but hazy, visibility low. This did not matter as I had taken the bearing of the flash on the Morro, so that when it went out and the massive picturesque old fortress was veiled in the morning mists we had only to run the course. Neither did it matter that I had no chart, except of the whole island. The pilot book was quite enough, and in following its instructions one could scarcely go wrong.

Here at the entrance to the splendid landlocked harbor of San Juan, nobody in a boat as small as *Mary* could have mistaken the channel that morning. Where it was not, the surf was rearing anywhere from 60 to 100 feet before it broke. Our sailing directions took us fairly close to the Morro, and I could feel the after bristles of my bob lifting slightly as I contemplated those breakers. The relative proportions of them and *Mary* were those of a boy's toy boat to the average Rockaway surf. I thought of what I had heard one of the crew of a mine sweeper say one day while watching the geyser from a detonated mine that had been riddled, and had sunk capsizing, to be detonated on the hard bottom off St. Nazaire. "Oh Boy . . . what if we was ridin' on the top o' that . . ."

If we had been riding some of those breaking on the Morro, we might have landed up on the old ramparts. There was a current setting in to these breakers, and I hoped that the engine would keep going, as the breeze had fallen flat. No, it did not look so good, until we had

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178′ (No name)

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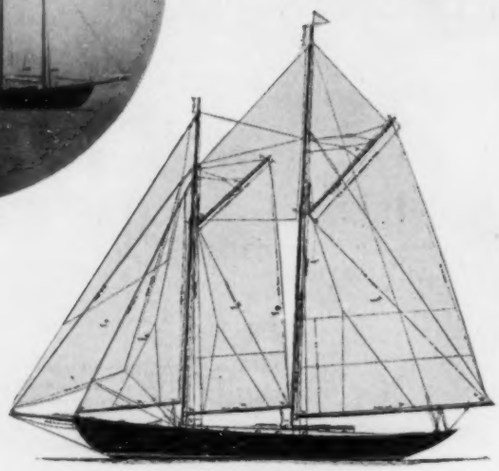
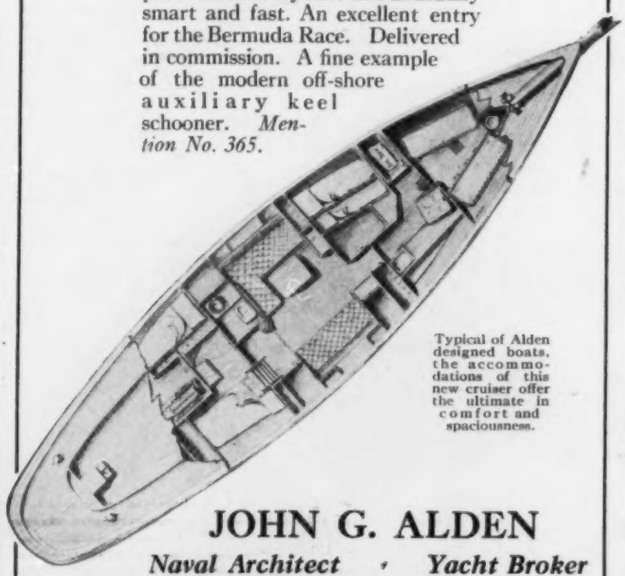
EXCELLENT ENTRY FOR BERMUDA RACE



NEW ALDEN SCHOONER

FOR any yachtsman who loves long cruises or cruising races such as the Bermuda Race, we can suggest no better schooner than this new one from Mr. Alden's design. Similar to the well known "Nicanor", but embodying improvements learned through Mr. Alden's experience with handling its predecessor, shown in the photo at the top of this advertisement. 57′ x 43′ x 14′ 2″ x 7′ 9″, but in accommodations a much larger boat. Two double staterooms besides main cabin. Can be handled with two paid hands. Very able and unusually smart and fast. An excellent entry for the Bermuda Race. Delivered in commission. A fine example of the modern off-shore auxiliary keel schooner. *Mention No. 365.*



Typical of Alden designed boats, the accommodations of this new cruiser offer the ultimate in comfort and spaciousness.

JOHN G. ALDEN

Naval Architect • Yacht Broker

148 State Street, Boston, Mass.

the breakers on either quarter astern and could breathe easily and enjoy the beautiful and imposing Morro which is, I think, the most impressive of all these old Spanish harbor guardians. They builded for the centuries to come, those conquistadores, and they were not economical of stone and mortar and human lives. So into San Juan we barged, nearly getting messed up with a ferry boat, the bows of which we crossed. She gave me a toot and when I tried to answer with our horn, found too late that it had suffered laryngitis and lost its voice.

Few landspeople realize how much safer we are in able little boats far out at sea than close in to the shore, no matter what the season. I would prefer being scaled along the surface of the water for a few hundred miles by a hurricane to landing up in the middle of a cane-field with the boat on top of me. This, of course, is a mere matter of taste, and some may feel differently about it.

We slipped into the port flying the code flag over Q, as directed by the pilot book for all vessels entering San Juan. This proved to be the right thing, if only to show due courtesy to health, customs and immigration officers. Their visits were a mere formality, and they did me the honor merely to wish me *buenas dias*, with no question about contraband. I hadn't any. Hootch and hurricanes mix badly.

To come straight in from the deep sea at the end of a long voyage that has been rough and desolate up to the day of entering port gives one a curious sense of anticlimax. The transition from danger and hardship to security and peace is so abrupt.

It is hard to realize that one is actually at rest, with land closely round, five fathoms of water under one instead of five miles straight down, as the day before entering San Juan when we were cutting across the end of the Nares Deep.

Inconsistently enough, the bothers and fussiness of the land begin immediately to irk, like a reception committee of mosquitoes. Hardships and danger are forgotten. One finds with wonder that one's thoughts are outward bound again.

A Sailing Rig for an 18-Foot Canoe

(*Continued from page 54*)

to show how some of the problems of such a rig can be solved, and second, to indicate that the art of the machinist combines very well with that of the boat builder. My own strong predilection for mechanics led me to turn to metal work when I ran into difficulties, and the results have been such that I shall go as far as possible on this course. Weight and bulk have been cut down and strength gained. Not the least of the lessons learned is that, broadly speaking, a considerable number of small fastenings is better than a small number of heavier fastenings. Of course, there are exceptions, but it is a fact that there are many construction details where large fastenings cannot be used at all, while a multiplicity of small ones will give ample strength.

While the rest of the rig is more or less conventional, there are points that will perhaps be of interest to those who contemplate fitting their canoes with sails. When spars are made as light as possible, it is out of the question to put holes in them, except at the ends. The old familiar screw-eye, convenient though it may be, is out. The most satisfactory way to attach anything to a spar is by whipping with small, strong line, such as heavy fishing line. This goes even for the halliards. It was found that knotting the halliards to the small spars not only did not look neat, but it was difficult to prevent slipping without the use of collars. Further, the knots prevented the sprits from coming up closely to place. With the rope unlaid at the end and secured by two inches of very tight whip-

STANDARD OIL COMPANY OF NEW YORK

Earl Widegren in his "Baby Olds," which made a record run from Albany to New York, 133 miles, in 4 hrs., 27 min., 27 sec. Outboard motorboat race, April 22, 1928.

OUTBOARD MOTORBOAT BREAKS WORLD'S RECORD— WITH SOCONY OF COURSE

SPEEDING down the Hudson from Albany to New York, Earl Widegren recently established a world's record for outboard motorboats.

Socony contributed to this triumph, for Widegren's "Baby Olds" was fueled with Socony Special Gasoline and lubricated with Socony Motor Oil. These Socony products have proved over and over again that they can be relied upon in a severe test.

You can obtain Socony Special Gasoline and Socony Motor Oil everywhere in New York and New England—also Socony Aircraft Oil for high speed boats. Just look for the familiar red and white Socony sign.

In the Southwest these same Socony quality products are obtainable under the names Magnolia Gasoline and Magnolene Motor Oil; on the Pacific Coast look for General Gasoline and General Parabase Motor Oil. They are made by Magnolia Petroleum Company and General Petroleum Corporation, two important subsidiaries of Standard Oil Company of New York.

SOCONY

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SPECIAL GASOLINE MOTOR OIL AIRCRAFT OIL

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NAP-O-VAC

HOT NAPHTHA IN A VACUUM

CLEANED

THE well-dressed yacht with sails gleaming white against a background of fleecy clouds, is more than just a wonderful marine view of ever-changing beauty — it is definite, tangible proof of a proud yacht owner. Sail cleaning is not easy by ordinary methods — that's why so many yachts, perfect in appointments, with brightly polished fittings and immaculate decks have dingy sails.

A new method of sail cleaning has now made gleaming white sails possible for every yacht owner — with the same ease with which he sends his linen to the laundry.

By the NAP-O-VAC process any sail up to five hundred pounds in weight (in one piece) can be cleaned, quickly, thoroughly and economically, without shrinkage.

By the NAP-O-VAC method the sail goes into a machine dirty and comes out clean, with no scrubbing or rubbing — all dirt, grease and oil spots, except mildew stains, are removed by the NAP-O-VAC Hot Naptha in a Vacuum Process.

Your flags may be cleaned in the same way and returned looking greatly refreshed.

Yacht owners at distant or local points should send sails by express prepaid.

Write or phone for information. Telephone Greenpoint 5301

UNITED CRESCENT
DRY CLEANING CORPORATION

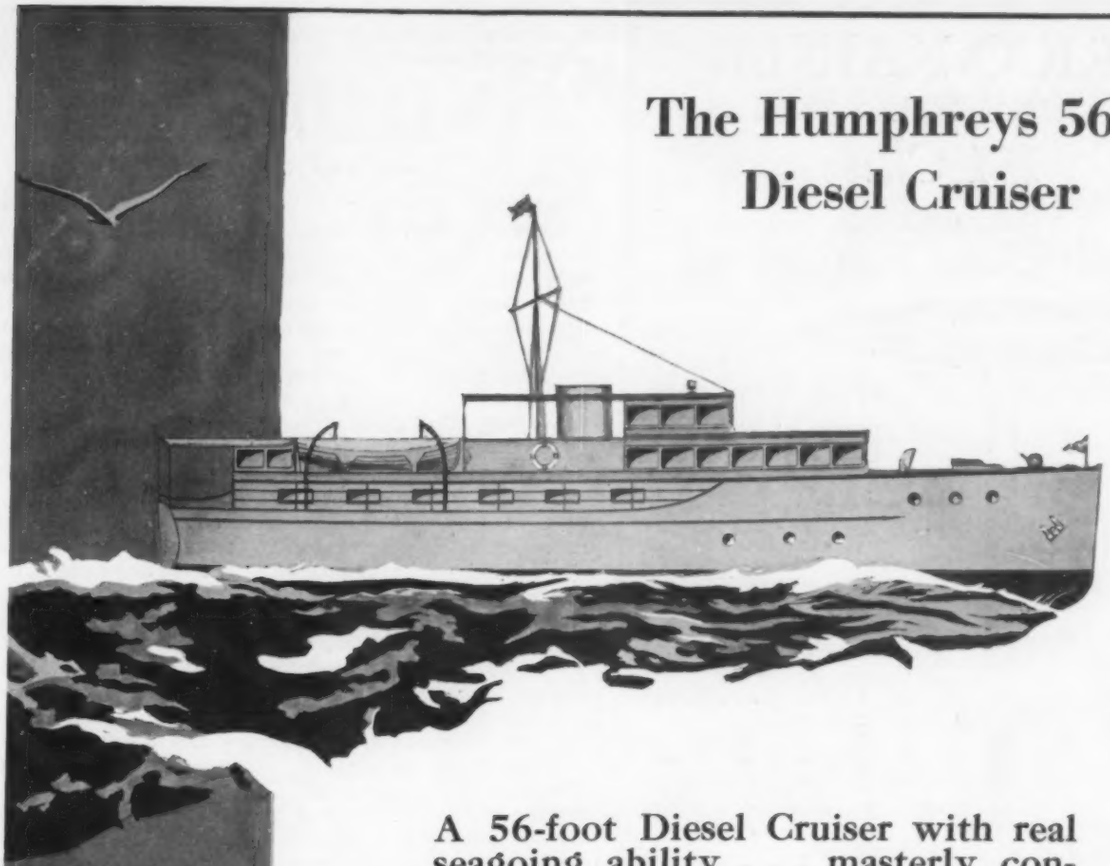
508 Morgan Avenue, Brooklyn, New York

ping protected with a coat of varnish, the fastening is flat to the spar and simply immovable. A block can be secured to a spar by stringing a short bit of rope through the eye and whipping the ends of the rope to the spar.

The mainsail of my boat has an area of 72 square feet, and it was soon apparent that when sailing for some time in a good breeze the strain of a single sheet on the hands was painful. So a block was put on the main boom and another on a brass screw-eye in the bottom of the boat, the screw going into the keel. The sheet was secured to the screw-eye, led through the block on the boom, down to the block in the bottom of the boat and thence to the skipper's hand. It made all the difference between comfort and suffering. Whether a single or double sheet is used it should pass through a block in the bottom of the boat and thence to the hand. The effect is to keep the main boom from kicking up, holding the sail much flatter than if the sheet went directly to the hand.

There are many paddling canoes on the upper Potomac with small single rigs of the canoe catalog type. Where these canoes congregate most the banks of the river are very high and the wind habitually comes in puffs and gusts, with the result that it is not uncommon for the single-sail craft to capsize. Nobody minds it in the least. But several of these men have asked me how I keep right side up with my larger sail area, when they go over with their three-cornered pocket handkerchiefs. Experience has a lot to do with it, but the fact is that under any conditions two sails are far safer than one, if the rig is properly balanced. The jigger sheet is belayed and requires no attention except when changing the course. The main sheet is *always* held in the skipper's hand; there is not even any provision for belaying it. If a gust comes so suddenly, and so fiercely that there is not even time to luff, all that is necessary is to let go the main sheet. Even if the skipper lets the tiller go the jigger will promptly bring the boat into the wind, the position of safety; with the help of the rudder it is a matter of a few seconds. Moreover, with the jigger hauled flat and the main sheet slack, the boat will ride hove-to indefinitely and safely. There are times when this is an inestimable boon.

It passes all understanding how the sailing canoe, along with other small sailing craft, has dwindled in popularity. There is no sport more thrilling, more thoroughly enjoyable, more picturesque and, let me add, more gentle with the pocketbook. Yet while there are, perhaps, a dozen boat houses, and two large and important clubs along a stretch of a mile of the navigable upper Potomac, housing many hundreds of canoes, there is but one decked sailing canoe, which rarely is seen. There are two open sailing canoes, Jack Hazzard's and mine. And there is one lateen rigged sail boat. That's all. I believe the sport can be dug up and reanimated. The trouble is that the present generation of young men have no way of knowing anything about real canoe sailing. Canoe builders have given up in despair, apparently, and content themselves with offering small single sails with heavy spars, thick, clumsy leeboards and terrible wooden rudders. Nautical literature is barren of canoe sailing matter. Some of us older men who knew canoe sailing when it was in its heyday, and who still love it, can do a lot to enlighten the boys; but we are few and the boys are legion. Many have come to me for information, always with the complaint that they can't find anything about canoe sailing in the magazines, or anything about the equipment in catalogs. To them it is actually a new sport, strange as it may seem. Proof of my conviction that a little missionary work will do a lot of good lies in the fact that the interest aroused here will probably result in the launching of a little fleet this summer; the appearance of a couple of open sailing canoes that performed well, and a little generosity in "giving rides" has done it. With some help from the magazines, some enterprise on the part of canoe builders



The Humphreys 56-ft. Diesel Cruiser

A 56-foot Diesel Cruiser with real seagoing ability . . . masterly construction . . . sumptuous appointments and luxuriously comfortable on long off-shore cruises.

Speeds up to 17 m.p.h. with full Diesel type engines. 2000 miles cruising radius at 13 miles. Fuel cost 25% of the cost of gasoline.

Custom built with arrangement, decoration and appointments left to the selection of the owner.

Complete at the cost of a stock cruiser.

For complete description write for Bulletin

By

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MARINE SPECIALTIES
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Hydroplane Equipment

ROPELESS STEERING GEAR
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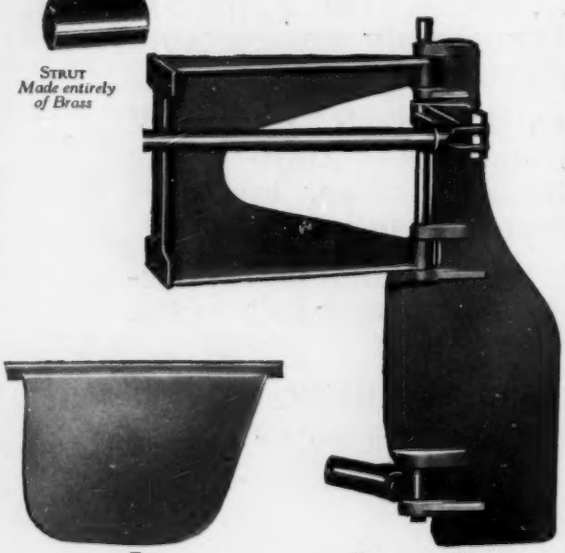
THE complete outfit of Erico-Kainer 151 Class and Hydroplane equipment consists of one each of the following: Steering Gear, Strut, Fin, Rudder and Bracket, 1" Erico Shaft Log, Bow Plate, Bilge Bailer and two Hollow Cleats. These fittings are of the most advanced type designed to meet the requirements of the latest in hydroplane hull construction.

Write today for price of complete set. Also ask for catalog illustrating the entire line of ERICO-KAINER MARINE SPECIALTIES.



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ERICO-KAINER Co.

763-767 Mather Street **Chicago Illinois**

and some boosting from the old-timers, the grand sport of canoe sailing can be put on its keel again. Let's all take hold. Heave ho!

The Sailing of Ocean Races

(*Continued from page 56*)

power, go tearing along on their course at twice the speed.

Helmsmanship, a definite factor in any race, is even more important on an ocean race where the cumulative effects of indifferent steering are multiplied by the miles. Say what you will, there are some men who can coax the last inch out of a boat, and frequently it is only a matter of feet that enables one to assume the commanding position. Even with an experienced crew, the steering will vary, and many really good sailors are but indifferent helmsmen. With the watches standing four hours on and four hours off, your green hand will be standing a trick once each watch, or six hours a day if the wheel is relieved every hour, as it should be. So you can multiply this time by as many poor helmsmen as you have in the crew, and again by the number of days in the race. No matter what angle of sailing, whether close-hauled or running free, poor helmsmanship means lost miles — first she falls off, then looks up and shivers, losing way, while the one in charge of the watch grinds his teeth or squirms in his oilers, yelling alternately to keep her up, and keep her off. In the night watches a beginner will murder the yacht, and, of course, running off in a bad sea there is considerable danger and a greater proportional loss of distance.

I remember one spring, coming up the coast from Miami in the *Flying Cloud*, a very fast cruising cutter 44 feet on the water. We had started with a nor'easter, but by the third day it had hauled around to the south'ard and freshened, so we soon had a big sea running up under the quarter. We were following the middle of the Stream and were about 80 miles off the Georgia coast when we really started to run. What a drive we had all the way up past Hatteras! Two hundred and seventy-one miles we did, noon to noon, with the current of the Stream under us, and that in a devil of a quartering sea with everything on her — topsail and jib topsail, the whole works. This is pretty fast going for a yacht, and yet we lost a great deal of ground in spite of experienced helmsmanship in every watch. Those big quartering seas would swing up under her, lift and drive her forward at terrific speed, and to save your life you couldn't keep her from running out to windward of the course as much as two points every now and again. It was a grand sail and well worth the strenuous trick at the wheel, though there were moments when she hung poised on those swiftly moving crests, and caught just right, would run off a trifle, causing that sickening sensation as you gave her a quick spoke and held your breath, wondering if she would never come back.

Ordinary cruising at sea need never entail any of the risk or physical discomfort referred to above, not even in fairly severe weather. Of course, there is always possible danger at sea, but a well built and properly rigged cruising yacht can be hove-to in a full gale and lie far more quietly, with less strain on hull and gear and much less discomfort to her people, than the same boat being driven in a 30-mile breeze through a Gulf Stream sea. Your owner who enters an ocean race just for the sport, who really has no definite idea of driving through to win, will experience none of the physical wear and tear, nor the strain on mind and nerves, from trying to gain the advantage of a few miles, that one does who sails his boat to win. When the wind pipes up and the sea begins to make, such an outfit will very quickly shorten sail, and aside from possibly a little seasickness, no other discomforts need be endured; in fact, this contestant will, in all probability, arrive with all hands in fine shape and feeling great after a nice quiet

A Smashing Victory

(ALBANY-NEW YORK IN 4:27:30)

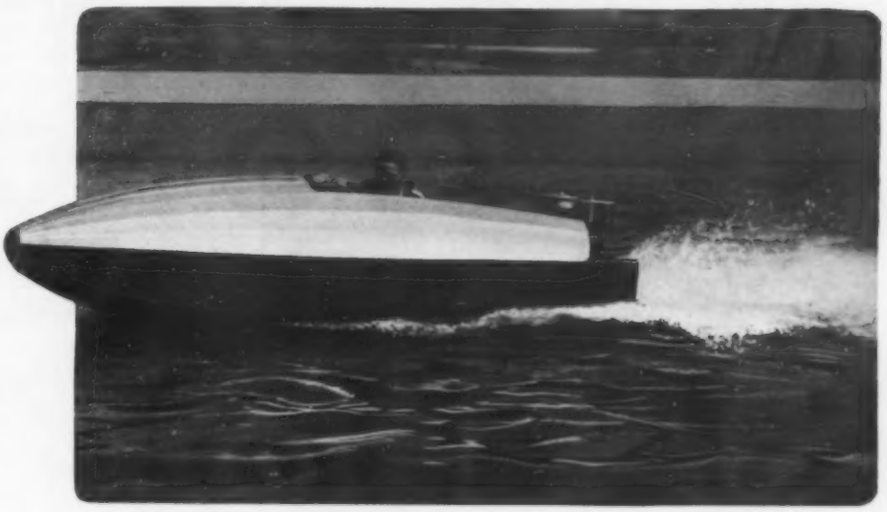
And FAIRCHILD *airplane engineers had final proof of a revolutionary outboard boat*

Sixteen Minutes Faster!

A driver running his first race, rain and sleet, the Hudson River clogged with driftwood, and "Baby Olds," the first Fairchild Aero, won the Albany-NewYork race in time sixteen minutes better than all previous records!

The grand prize winner of the 4-day event with 68 starters!

This is just the beginning. The Fairchild Aero, the outboard with airplane lines, will be making racing history wherever it appears.



Airplane features make the Fairchild Aero miles faster

AIRPLANE engineers of the Fairchild Corporation worked for two years to give outboard racing drivers a revolutionary and faster outboard boat. Airplane features which contribute to the speed and stability of modern aircraft were combined with the best principles of small speed boat design.

The final result of the Albany-New York Race was but the conclusive test of what Fairchild engineers have known for months. The Fairchild Aero, with its airplane features, proved the winner, just as it did at Buffalo last year in its first race. It proved miles faster, even in the hands of a driver running his first outboard race.

And now after two years of development work and testing, the Fairchild Aero is ready for the market. It is not in any sense a conventional boat, nor is it simply a good outboard made better. It is a unique boat, an entirely different type of outboard racing hull.

The bottom is designed with new features taken from the airplane and flying boat. Six longitudinal steps, plus a cross step, give a marked reduction in bottom friction. The streamlined fuselage, flotation tanks, and scientifically applied dihedral angle all contribute to the amazing speed and performance of this new type outboard racing boat.

Length, 12 feet 6 inches. Beam, 51 inches. Price, $330.

For those who have not had the opportunity of seeing the Fairchild Aero in action, we have prepared a booklet "The Fairchild Aero and How It Came About." A copy will be sent free of charge upon request.

Pledge to Outboard Drivers

The Fairchild Corporation is determined to build, and to continue to build, the fastest outboard hull that the best marine and aerodynamic engineering skill can produce.

Sherman M. Fairchild
PRESIDENT

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During June, production will be but 20 hulls a week. Shipments will be made in the exact rotation in which orders are received

C-O-TWO Equipment Protects Fireboats

It's always interesting to know what medicine the doctor himself takes. It's just as interesting to know which fire-fighting equipment is preferred by fire-fighters.

When Portland, Oregon, recently built the first of three new fireboats to protect her harbor, it is a significant fact that C-O-TWO Fire Equipment was specified to protect the vessel.

There is a C-O-TWO equipment for every size and type of boat — a system that definitely eliminates marine fire hazard — a fixed installation, piped to every vital part of the ship—employing a harmless gas that extinguishes oil and gasoline fires almost instantly, before damage can be done — automatic equipment that protects your boat at all times whether attended or unattended — both automatic and manual release — constant, dependable, economical.

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trip. But don't forget that this attitude will result in the boat's arrival a day or more behind the winners.

The sea is a jealous mistress and not inclined to forgive many mistakes or overlook anything verging on lack of respect. Consequently, a skipper's nerve must be tempered with good judgment, and a fine line must be drawn between getting every possible mile out of the ship, and a reckless carrying of sail beyond the point of maximum speed. To maintain a perfect organization, to apply the best of experienced judgment to every changing condition of weather, and to keep all hands keyed up to enthusiastic and concerted effort, calls for the best of seamanship and morale on the part of the captain and those in charge of the watch. If this is done, the crew will be called upon to the limit of their ability and endurance, and if only a few of the situations outlined above are taken into consideration, and a crew chosen that will function efficiently, either individually or as an organized body, then everything is in favor of that particular entry coming through with winning colors.

Deep Water Sailing

(*Continued from page 71*)

sticking to it. The bacon is packed in the salt just as it is, in pieces of a size suitable for the number of the crew and the amount required at one time. For a crew of five, pieces of 1½ or 2 lbs. would keep quite well, after being taken out of the salt, until they were eaten. Of these glass jars, four were in a box specially made for them and four just fitted into one of the cupboards. Pieces of 3-ply wood were laid upon the top as covers and placed between them to prevent any likelihood of their cracking. I doubt whether it is possible to provide better stowage for a large quantity of food in a small space.

We took 20 lbs. of tea, and 30 of coffee. As we all drank coffee for breakfast and after lunch and dinner, we used a great deal. For this I think 2 oz. per man per day would be a safe allowance. Tea we only drank at tea time, and sometimes at night. It is difficult to say what would be needed in a tea-drinking ship, but I imagine 1 oz. per man per day would be plenty. Cocoa we sometimes used at night. I think we used less than 2 lbs. on the round voyage.

We started with four of those round red Dutch cheeses, weighing 4 lbs. each. These were a great success; the Tropics seemed to suit them, and they went on improving until they were finished. They were kept in one of the lockers below the water line and next to the ship's side. The heat made them a little softer than usual, but this kind of cheese has the great advantage of not smelling.

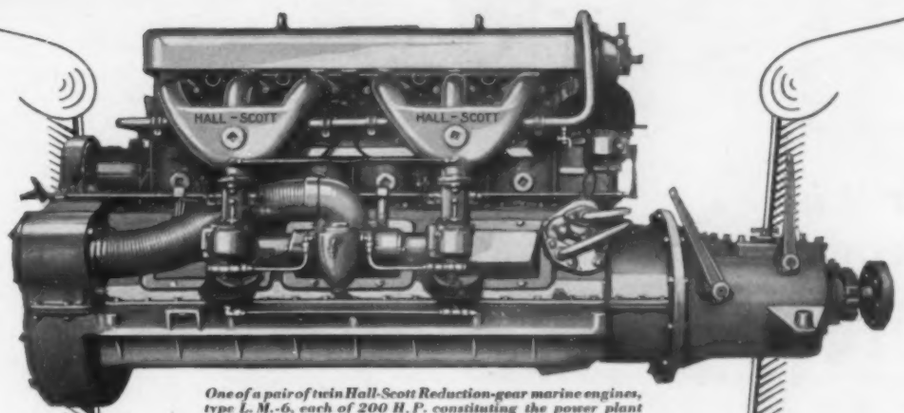
Bovril was more or less a standard drink at the change of watch at 4 A.M. For this purpose I think that about 1 oz. per day is enough for four watch keepers. I have since tried some "Marmite," a preparation made from yeast, I believe. It makes quite a good drink, something like Bovril, and I am told by a doctor that it is very wholesome and contains much vitamin. I would certainly include it in a ship's stores in the future.

Bovril reminds me of onions because, some years ago, when sailing single-handed, I tried to braise onions in it. The attempt led to the compounding of a form of onion soup which has been a great comfort at times to those who have sailed and raced in *Jolie Brise*. This is not soup which comes before a meal, but is a meal in itself. As a sea food it is one of the most strengthening and comforting things I know, and it has the advantage that one feels extremely well after consuming a great deal of it. Here is the recipe for anyone who cares to try it.

Get the largest and finest onions available. Here, Spanish onions seem to be the best. Peel them, for choice sitting a few points to windward of them on deck; or

WHEN YACHTSMEN SAY "POWERED BY HALL-SCOTT"

THEY SPEAK THE HIGHEST PRAISE



One of a pair of twin Hall-Scott Reduction-gear marine engines, type L. M.-6, each of 200 H. P. constituting the power plant of the "Roamer IV", shown below, owned by Mr. Earl Holley, president of the Holley Carburetor Co., Detroit. Length 52' —0"; beam, 10'—0"; draft, 2'—9". Speed, 28 M. P. H.

Infallible dependability is an outstanding attribute of Hall-Scott Marine Engines. It is universally recognized by those true yachtsmen who regard thorough knowledge of their boats' power-plants as an integral part of the sport.

¶ Furthermore, the Hall-Scott, being a reduction-gear motor, weighs less and takes less space per horsepower, requires less fuel and lubricant, needs far less attention.

¶ Wherever the initiated gather, wherever noted marine engineers discuss the latest improvements in equipment and in design—there you will repeatedly hear them say "She's powered by Hall-Scott," in a manner which unmistakably denotes "What more need be said?"

HALL-SCOTT MOTOR CAR COMPANY

217 WEST 57TH STREET, NEW YORK CITY

A Division of American Car and Foundry Motors Company

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Patents applied for

What if it happened to your boat?

HERE'S a case where a man's boat was wedged into his boathouse by a rising river, causing her to leak badly. An Oberdorfer Automatic Bilge Pump operated constantly for two weeks and saved it from sinking 400 times over. What if something started your boat to leaking during the night with no one on board? Have you an Oberdorfer Automatic Bilge Pump on guard?

You get convenience as well as protection when you have a new model "B" Oberdorfer Automatic Bilge Pump. Easy to install. Operates from 6- or 12-volt storage battery. Small in size. Height 10 in., width 4 in. Price $25.75.

If you don't have current available you will want the Oberdorfer Hand Bilge Pump. It is also a valuable auxiliary to a motor-driven pump. It has a capacity up to 400 gals. per hour. Handle is detachable.

Oberdorfer Motor-Driven Pump Outfits, both rotary gear type and centrifugal type, serve many useful purposes on board a boat.

Oberdorfer Bronze Gear Circulating Pumps are made in types, forms and sizes to fit any marine motor, or for converted automobile motor.

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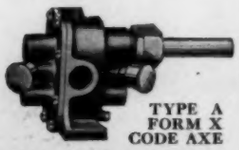
HAND BILGE PUMP

MOTOR-DRIVEN OUTFITS WITH GEAR PUMP



TYPE A FORM X CODE AXE

Oberdorfer Pumps

peel under water, or one can only see to do about three. Allow about two for each man. Cut them into quarters and put them into a large saucepan with a cover. For 5 men I should cut up 12 onions. Pour in enough cold water to make plenty of soup for all hands; add 2 full tablespoonsful of Bovril; about ¼ lb. of butter; a dessert spoonful of Lea and Perrins Worcester sauce; black pepper with caution; and if there is any, a small wine glass full of sherry, or rather more white wine, when the cooking is nearly finished. It seems best not to add any salt in the cooking. Allow the mixture to boil gently, and stir occasionally until the onions have all fallen to pieces and are perfectly soft. The soup is then made. I venture to recommend the recipe because we have found this soup to be one of the very best and most wholesome forms of food which one can have at sea. It is easy to make at any time when cooking is possible at all, and everyone seems to like it. Another suggestion is that a teaspoonful of Worcester sauce in the frying pan often improves the flavor of bacon very much.

We found, particularly in the Tropics, that curry was one of the most useful dishes, particularly for breakfast. If it is to be made fairly often, an extra supply of rice must be taken. It was particularly useful to us after our fresh beef went bad, for bully beef is horrid in very hot weather, as it all falls to pieces when it comes out of the tin. Curry is all the better for having raisins cooked in it.

Good food and regular meals, as well served as possible, are, I think, the most important thing of all upon a long voyage. It is not often that several men can live at very close quarters and at times in considerable discomfort without feeling the strain of it after a while, and I am sure that the best, and indeed the only way of having a happy ship, is to spare no pains in making the meals as wholesome, as varied, and as attractive as possible within the limitations of a small ship. This is a job which I think the owner had better attend to himself. He can arrange with the cook every day what the food shall be; and if he is an experienced cook himself and the chance comes, once in a way he can set to work to turn out the finest meal he can devise for all hands. It will be appreciated. On a long voyage little things which one does not notice on shore become luxuries which are really welcome. A cup of good coffee after dinner and occasionally a small glass of brandy with it, or sometimes a bottle of very ordinary claret or white wine makes a real difference. People may laugh and think that I am suggesting a luxurious way of ocean cruising. Not at all; one does not expect even small luxuries every day, and the object is to provide as much change as possible in a diet which may easily become unwholesomely monotonous. On a short passage it is quite another matter; almost any food will do when one knows one will get a first-rate meal on reaching port. A long voyage or an ocean race is an entirely different matter. I am certain that no owner will ever regret the care and trouble which he takes in victualling his ship. Food is not an attractive subject, and I have written about it at some length only because I have found it the one really troublesome and difficult part of one's work in preparing a ship for sea.

British Yachting in 1928

(*Continued from page 73*)

yachts will be Bermuda rigged cutters, whereas the other cutters they will race against are gaff mainsail and topsail rigged.

The yachts begin the racing this year at Harwich, near the mouth of the Thames, early in June; then they make the passage to the Clyde for the racing there at the end of June and beginning of July, thence to Ireland and down to the southwest coast of England before the Solent racing, which commences at Cowes early in August. The racing finishes the first of September at Dartmouth. In all there are about 40 races for the first class yachts.

Smart --- Staunch --- Fast

Here's thirty-four feet of beautiful mahogany cruiser! Powered by the famous line of Kermath sixes. . . . Luxuriously appointed with every cruising accoutrement. . . . Rakishly designed. . . . Stoutly built. . . . This cruiser with sleeping accommodations for four is a boat you and your family will be delighted to own. Its dashing speeds and thrilling buoyancy awaken the fearless strain of a Viking heritage. Its comfortable quarters are gloriously restful to taut and tired nerves. Here is an outstanding cruiser at an outstanding price. By all means investigate the value and advantages of the Liggett "34". Write today for a catalog.

Demonstrations by appointment

13-mile model	17-mile model	20-mile model
$5475 complete	$5875 complete	$6275 complete

The Liggett "34"

A. G. LIGGETT & SON COMPANY

WYANDOTTE MICHIGAN

Boat builders for 30 years

Hotel Rock-Mere
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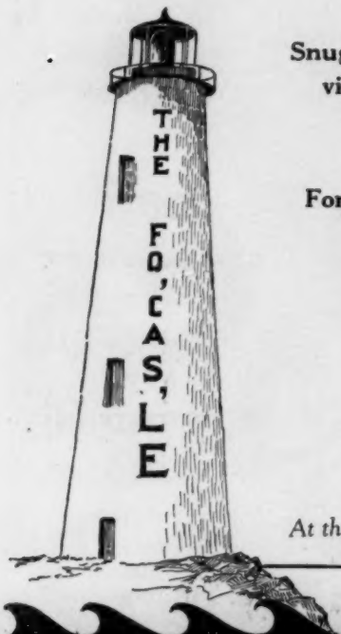


Snug shore quarters for visiting yachtsmen

Fore and aft dancing

Sea Food

At the Sign of the Lighthouse

MOSSE LINENS

IRISH LINEN YACHT TOWELS

These fine Irish Towels are made of pure linen, with Gulls and Galleons woven in a border of contrasting color. They are unusually attractive and a most acceptable gift for a yachting friend.

Price per dozen including embroidered name of boat or owner:

15 x 24 inches.....$16.50
18 x 34 inches.....$19.75

MOSSE
INCORPORATED
730 FIFTH AVE
NEW YORK, N.Y.
SAN FRANCISCO STORE AT 451 POST STREET

The next racing class is the 12-metres which includes a number of yachts and will have one or two new ones this year. The *Vanitie*, built and designed by Fife, the oldest in the class, is still considered the best of the bunch, but of course she is very cleverly sailed by her owner, J. R. Payne. Next to the "Twelves," come the 8-metre yachts, for there are no 10-metre yachts in British waters. The "Eights" are becoming very popular as they are more roomy and more able craft than the famous "Sixes," but the latter class is still the strongest in numbers, and the visit of the American "Sixes" that are to compete with ours on the Clyde this year, for the British-American Cup, will add greatly to the interest of the yachting season. No place will give the American visitors a better reception than the Clyde, and the visitors will get a better chance on those waters than they would on the Solent, for the Clyde has practically no tide or current and no sandbanks, like the famous English waters.

After the visiting "Sixes" have won or lost the cup on the Clyde, they will no doubt go south for the English regattas on the Solent, and they will be sure of having good sport there, where their presence will add great interest to the class. The more the merrier is the motto of all yachtsmen in every country.

It is to be hoped the weather of 1928 will be an improvement on 1927, for last year was the worst of many seasons, and will be remembered as a year of reefs in mainsails and soaking oilskins.

DUNCAN F. D. NEILL.

All Set for the Bermuda Race

(*Continued from page 77*)

The Cruising Club of America will have charge of the start of the race at New London, which will be on June 23rd, at 2:30 P.M., Eastern Standard Time. The race committee of the Royal Bermuda Yacht Club will handle the arrangements at the finish, off St. David's Head Light. Under ordinary conditions it should take the leading boats from three and one half to four days to sail the long course of 660 miles. Entries close June 13th and should be sent to the Bermuda Race Committee, care of YACHTING, 25 West 43rd Street, New York City.

Following is a list of entries:

CLASS A — OVER 53 FEET AND NOT OVER 72 FEET OVER ALL

Boat	*Length*	*Rig*	*Owner*
Dragoon	66′	Ketch	R. N. Bavier
Malabar IX	58′	Schooner	J. G. Alden
Yankee Girl II	66′	"	Dr. G. W. Warren
Teal	54′	"	R. G. Biglow
Tradition	60′	"	J. R. Miller
Malabar VIII	54′	"	W. Findlay Downs
Windjammer	57′	"	Edward Crabbe
Rugosa II	59′	Yawl	Russell Grinnell
Flying Cloud III	67′	Schooner	Lawrence Grinnell
Chimon	67′	"	Dr. F. G. Goodridge
Charmer	69′	"	Austin H. Hart
Clotho	60′	"	H. B. Anderson
Tigress	56′	"	G. B. Drake
Blue Goose	69′	Schooner	Paul T. Buckler
Murmac	59′	Schooner	Geo. McM. Godley

CLASS B — NOT OVER 52 FEET AND NOT UNDER 35 FEET OVER ALL

Boat	*Length*	*Rig*	*Owner*
Primrose IV	50′	Schooner	F. L. Ames
Black Goose	52′	"	Everett Morss, Jr.
Malay	45′	"	R. W. Ferris
Malabar IV	47′	"	C. D. Dillon
Merry Widow	52′	"	Wm. McMillan
Elizabeth	50′	"	L. A. Williams
Gesine	50′	"	John Schuette
Seal	36′	Sloop	C. K. & R. P. Post
Duckling	37½′	"	C. W. Atwater
Song o' the Wind	50′	Ketch	Reyburn Watres

SPECIAL CLASS

Alamyth	82′	Schooner	W. P. Laytham

CLASS UNDER 35 FEET OVER ALL

Islander	34′	Yawl	Harry Pidgeon
Svaap	33′	Ketch	W. A. Robinson
Miladi	32′	Cutter	C. L. Moody
Explorer	34′	Yawl	C. L. Justice

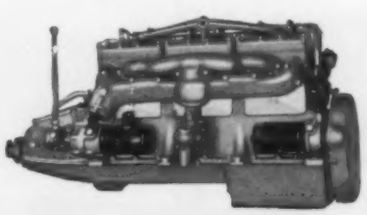
A Worth-While Power Idea for Cruisers

ILLUSTRATED above is one of the smart 40-foot cruisers on which Stephens Brothers, of Stockton, California, have standardized for some years back. The power equipment calls for two model F-4 SCRIPPS engines, which deliver a speed of 17 miles per hour, or two model F-6 SCRIPPS motors, capable of driving the boat 22 miles per hour. In addition to a most satisfactory turn of speed, this installation provides a double factor of safety; unusual flexibility in handling, economy in operation and maintenance, all combined with low first cost. The compactness of the engines conserves valuable space in the boat layout.

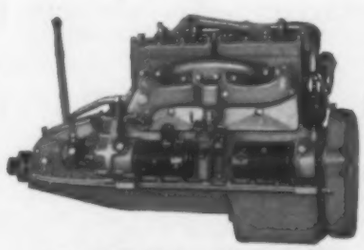
In a recent ocean race from San Francisco to Santa Cruz, two of the Stephens' 40-footers were entered, one powered with F-4's, the other with F-6's. The engines completed the entire run through heavy seas with a perfect score. SCRIPPS equipment won first and second respectively, the third boat finishing three and one-half hours later.

Another sister ship, equipped with two F-4's, left San Francisco on her maiden voyage to San Diego, stopping only at Los Angeles for supplies. Again the engines made the entire run of approximately 800 miles without attention and established a remarkable economy record.

Investigate these exceptional engines, as well as the balance of the SCRIPPS line of fine motors, made in various sizes and types from 10 to 200 h.p., suitable for every class of marine service.



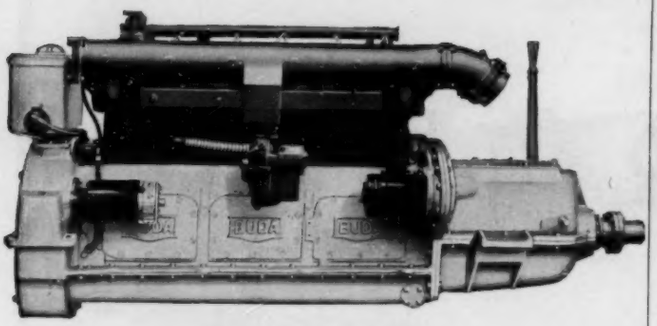
Model F-4: 15-40 h.p., Medium Duty
40-60 h.p., High Speed



Model F-6: 50 h.p., Medium Duty
100 h.p., High Speed

Scripps Motor Company, 5833 Lincoln Ave., Detroit, Mich.

Buda's New 130



Six-Cylinder

"L" Head • 4¾ x 6

Built for Fast Runabouts and Cruisers

DEVELOPED by The Buda Company — pioneer builders of gasoline engines. Buda's new 130 Marine Engine has high turbulence head which gives greater power output and low consumption of fuel. A three-inch crankshaft of the latest self-centering type, which eliminates vibration. Chrome vanadium steel connecting rods to withstand fatigue and minimize breakage.

Let us tell you more about Buda's new Marine Engine.

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664 MISSION STREET , SAN FRANCISCO, CAL.

THE BUDA COMPANY
Established 1881
HARVEY (Chicago Suburb) ILLINOIS

BUDA MARINE POWER

Small Diesels for Yachtsmen

(*Continued from page 44*)

advice was sought in the selection of an automobile, but who thinks of such a course now? One may well display the same attitude in the choice of a low powered Diesel engine. All these engines are dependable. They are all built to an exacting standard of workmanship. Some are finer products than others, just as in the case of gas engines or automobiles. External finish is, of course, no criterion of performance.

One need not trouble one's self over the engineering end but, in sharp contrast, it should be remembered that quietness and smoothness of operation and absence of smoke or smell are factors of the first importance when the engine has become a shipmate. Far too few people bother themselves to have a trial of the companionable qualities of the engine they "sign on" for their boats, and yet they would not consider the purchase of an automobile without previous experience of its riding qualities. It is true that the automobile can be brought to the door of one's home for a trial run, whereas one may have to go far to attend a trial of an engine in a boat. The differences in what one may call engine manners being as great as they are, however, prudence should lead the man who studies his comfort to assure himself that the engine he will buy is an agreeable shipmate. Some engines may seem noisy, some shake a little, some are apt to be smoky. If one has no objection to those traits, well and good. If they are anathema, then the time to discover them is beforehand.

Still the old question pops out: Are Diesel engines really reliable? Of course they are. It is strange how this question survives when so many engines of this type are in continuous service in all the seven seas as well as in home waters. A new variant of the old query is: Can the engine operate without skilled attention? The answer is that if the engine is designed for automatic operation it will run without attention; if it is designed for operation under the charge of an engineer then it must have a watch.

Canada and United States to Meet on Barnegat Bay

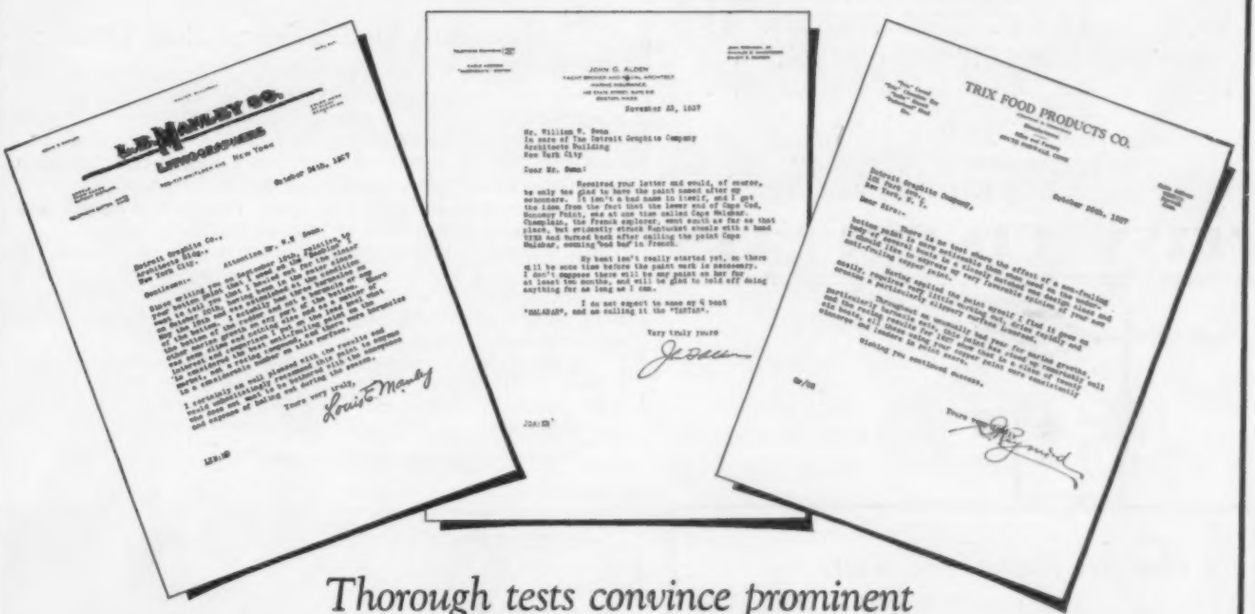
(*Continued from page 81*)

picked. Several of the more prominent contenders have launched their craft during the past month.

The committee in charge of the series includes, in addition to Ritner K. Walling as chairman, David A. Storer, and Benjamin Adams. The committee has announced also the method of choosing the crews to represent Barnegat Bay. In contrast to the practice of former years, any of the Class E sloops are eligible to enter the elimination series which will start on July 1st. As many races will be sailed as there are boats entered, skippers and crews sailing a different boat in each race. The two combinations chosen will be picked both on the basis of the showing made in this series and on the results of last season's championship regattas in Jersey waters.

Clinton Crane's "Six" *Akaba* on the ways.

SMOOTH SAILING
in 1928 with
MALABAR
the remarkable new
ANTI-FOULING BOTTOM PAINT



Thorough tests convince prominent yachtsmen that Malabar solves bottom fouling troubles

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COMMODORE GEORGE P. P. BONNELL,
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THERE'S ONLY ONE NAUTICAL BINOCTAR, WHOSE INTEGRITY IS SO FIRMLY ENSCONCED IN THE HEARTS OF UNCLE SAM'S SAILORS AND YACHTSMEN THE WORLD OVER. THE TELITA IS THE LADIES' FAVORITE.

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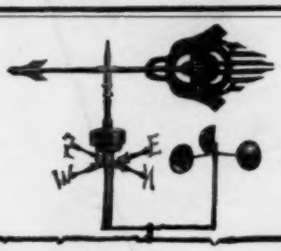
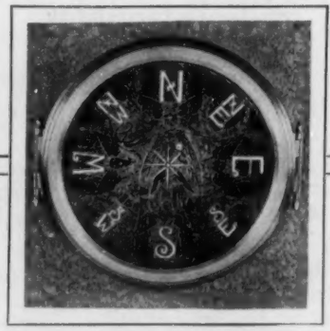


A Watcher Within the Walls
THE LORD ELECTRIC WIND INDICATOR



Flashing lights show the direction and velocity of the wind. It is an absolutely accurate instrument, at once instructive, practical, entertaining, useful and interesting. The wind's message to you shown instantly in any room in your house, or at any distance.

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CHARLES E. LORD
24 Milk Street **Boston, Mass.**

The Star Class racing off Havana, in the shadow of the Morro, during the winter series sailed in February.

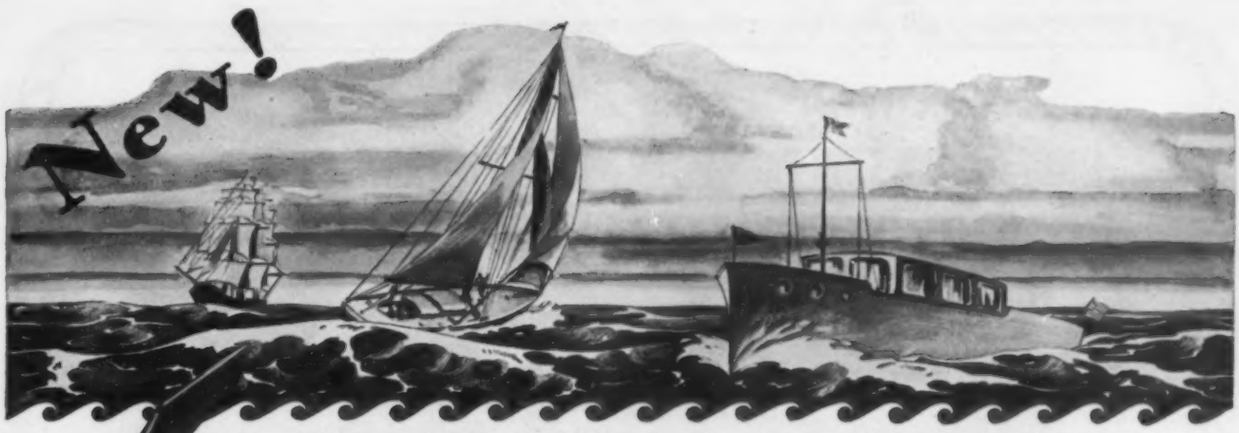
A Challenge to Model Power Boat Owners

ON the afternoon of October 15th last on Conservatory Lake, Central Park, New York City, the model power boat *Mystery*, owned by F. C. Zimmers, made a speed of approximately 30 miles per hour. In view of this record Mr. Zimmer now challeges any and all comers to beat this speed, under the same conditions. The *Mystery* is a single-step hydroplane, driven by a pot boiler with a super-heating tube. The hull, designed and built by Walter Elliot, is 43 in. over all length.

The *Mystery* made five consecutive laps at 7.5 seconds per lap at the end of a 50-foot tethered cord, giving approximately a 314-foot course. To the best knowledge and belief of the New York Society of Model Engineers, this is a world's record for saturated steam-driven hydroplanes.

The following were present when the record was made: Messrs. Francis L. Herreshoff, Walter Elliot, J. T. Lozier, H. M. Oliver, B. O. Smith, F. Nelson, and F. C. Zimmer. Mr. Herreshoff acted as timekeeper.

Señor Rafael Posso presenting the Mid-winter Challenge Trophy to F. H. Robinson, of the Peconic-Gardner's Bay Star fleet, at Havana.



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Yes, sir, a real anchor designed for yachtsmen by yachtsmen, and not by blacksmiths!

FOUL-PROOF because there are no shoulders on the flukes to catch cable.

DRAG-PROOF because it bites quickly in hard bottom; buries itself in soft.

RUST-PROOF, hot dipped galvanized, insures long life and gives high-grade finish.

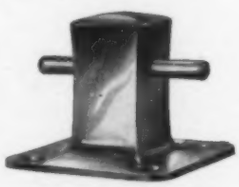
DEPENDABILITY itself; drop forged steel—not cast—combined with Wilcox workmanship insures you a thoroughly reliable anchor for yachting use.

[HOLDS *more boat per pound than ordinary anchors*]

The new Wilcox Yachtsman's Anchor may be had in sizes 25, 35, 50, and 75 pounds. Retail price only 30¢ per pound.

Cabin Sash Hinge and Anti-Rattler

Polished brass. Attractive design. Easily adjusted. Pull opening, yet stops rattle and makes window storm-tight.



Brass Mooring Bitt

Strong enough to withstand exceptional strains. Beveled edges protect cable.

GasolineStrainer

Improved design — of bronze—leak proof cap, easily removable. Bracket holds filter securely and relieves pipes from strain.

Oval Portlight

Admits three times the light and air of a round port of same height. Removable screen which does not interfere with opening or closing of port.

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Sea Craft Suggestions and Supplies — 297 pages, cloth bound, and crammed with information useful to every yachtsman. Send this coupon with fifty cents and copy goes to you by return mail.

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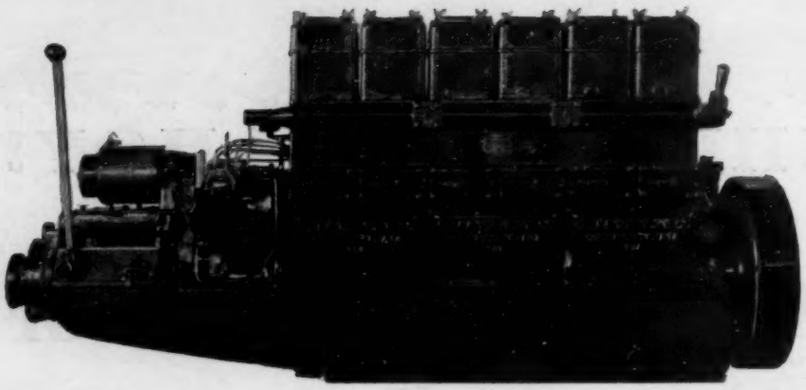
CUMMINS DIESELS
POWER THE GLOUCESTER CRUISERS



IT seems only natural that the "Gloucester Cruisers" so typical of the ships that really go to sea should, like their prototype, be equipped with Diesel Engines.

Although having all the sea-going ability, safety and strength of these ships, in addition they have the trimness, beauty and comforts so desirable for private use.

The *Cummins* is a full Diesel, refined and simplified to a degree not found in any gasoline engine. They are automatically lubricated, electrically started, full remote control — odorless and absolutely oil-tight, having no moving parts exposed except the fly wheel. The exhaust has no objectionable smoke or odor.

All of these advantages are only to be found in *Cummins Diesel* engines. These engines are designed for the yachtsman who wants not only economy but safety for his family and himself.

Cummins Diesels are being rapidly adapted to the better type of stock boats, builders of which are not deterred by the slightly higher cost of the engine from giving their clients the ultimate in motors.

Your naval architect and yacht builder are prepared to quote prices for their boats equipped with *Cummins Diesels.*

Cummins Diesels are built in sizes from 8 h.p. to 500 h.p.

We will be glad to answer any questions you may have in regard to Diesel engines in general, or *Cummins* in particular.

Upon request we will furnish names of Architects and yards who are making a specialty of *Cummins Diesel* Cruisers, and who have a number of boats to offer for summer delivery.

Eastern Representatives:

Marine Engines: Sutter Bros., 44 Third Ave., New York
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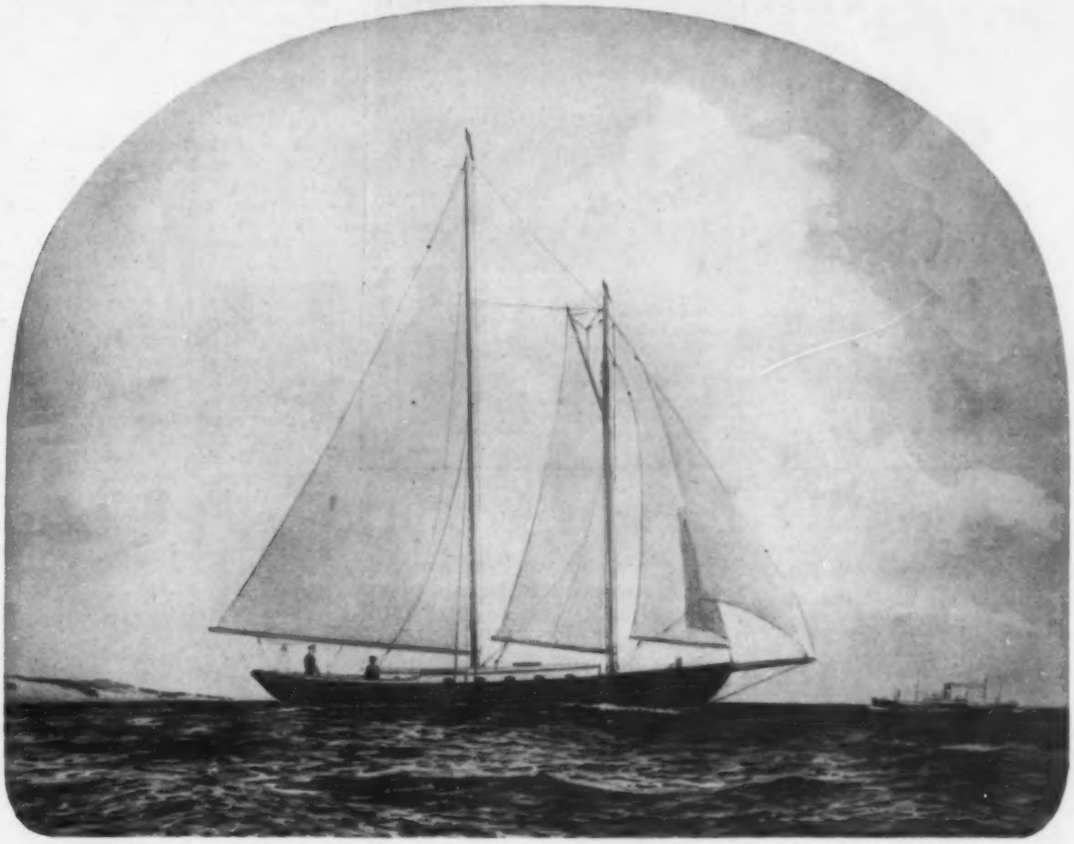
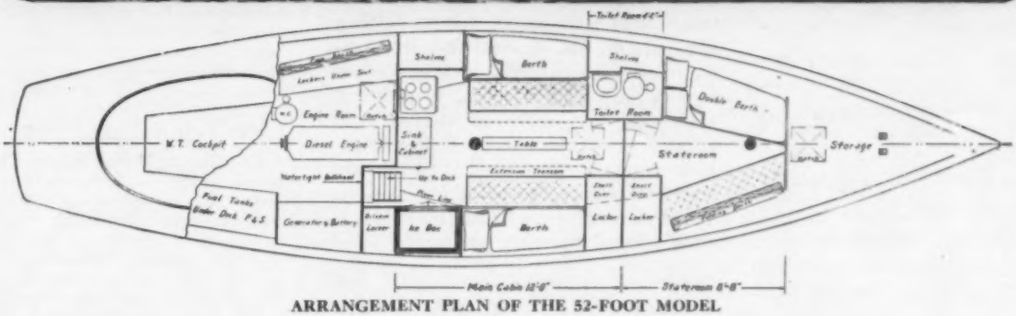
Industrial Engines: John Reiner & Co., Inc., 309 Church St., New York

CUMMINS ENGINE COMPANY, INC.
Columbus, Indiana

THE GLOUCESTER CRUISER
DIESEL POWERED





ARRANGEMENT PLAN OF THE 52-FOOT MODEL

THIS namesake of the world-famed Gloucester fishing schooners is a Diesel auxiliary cruising yacht in which rugged seaworthiness, staunchness and safety are skillfully combined with pleasing appearance, comfort and speed.

For all yachtsmen interested in wholesome cruising craft we have a worth-while message and a pleasant surprise, which will be sent upon request.

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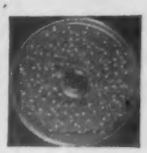
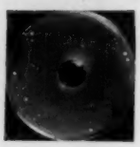


Science put actual mouth conditions under the microscope. White spots denote millions of disease germs which swarm the air you breathe.

A microscopic view of same culture plate after application of Forhan's Antiseptic Refreshant. See how few germs remain. Danger has been removed.



Not so well!

Up today and down tomorrow. An unfortunate victim of the seasonal ills—sore throat in the winter, a touch of grippe in the spring, an insistent cold in the summer. And deserving of as much consideration as any ill—an unpleasant breath.

If you would avoid these throat ills that drag a man down, just remember: They come out of the air. For every breath you take is teeming with millions of disease germs patiently waiting to get into the warm moist tissues of the mouth and throat.

And when neglected, dread bacteria cause such troubles as raw, sore throat, inflammation, cold and worse. But thankfully they reveal their presence. One way is bad breath. This fact alone makes bad breath the cause of more than embarrassment.

Feeling Great!

Now every day, week and month you can protect your health, pleasantly and easily. You can ward off sore throat, cold and such insidious troubles as bad breath and taste.

Every morning, every night use Forhan's Antiseptic Refreshant as a mouthwash—as a gargle when necessary. Try it and you'll agree there's nothing better.

This wonderful antiseptic mouthwash was proved in the searching crucible of the laboratory. In competition with popular mouthwashes it was judged a success. Quickly it removes the cause of throat and mouth infection and so helps to relieve soreness, cold, inflammation and bad breath. It works! (Of course, trouble caused by focal infection is work for dentist or physician.)

Now use Forhan's Antiseptic Refreshant. Refreshing, clean in taste and effective. No telltale odor to advertise its presence. Get a bottle from your druggist, 35c and 60c.

bad
Breath
IS BAD
NEWS

use
Forhan's
ANTISEPTIC
REFRESHANT

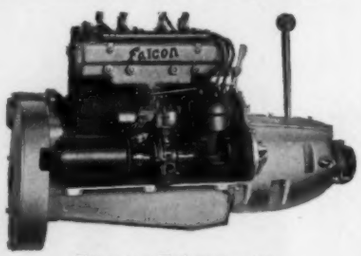
Drake Sparkman and Olin Stephens form Partnership

Drake H. Sparkman, who conducts a yacht brokerage and insurance business at 11 E. 44th St., New York, announces that he and Olin J. Stephens have formed a partnership for the designing of yachts, and are prepared to get up and submit plans of both racing or cruising yachts. Mr. Stephens received his technical training at Massachusetts Institute of Technology. The partnership does not cover the brokerage business, which Mr. Sparkman will continue to carry on under his own name.

Falcon Motor Proving Popular

One of the latest "Fours" in the marine field for auxiliary power, small runabouts, tenders, and small cruisers is the new Falcon manufactured by the United States Motors Corporation of Oshkosh, Wis.

The outstanding feature of this engine is its oversize, full counterbalanced crankshaft which maintains a vibrationless flow of power up to, and even beyond, its rated horse power. It will operate at speeds as high as 4,000 r.p.m., but its rated 15 h.p. is developed at only 2,500 r.p.m. This engine measures less than 35", including reverse gear, and weighs less than any other 15 h.p. marine engine fully equipped. It has a full pressure oiling system. All parts are easily accessible, and camshaft, connecting rod and main bearings are oversize. In detail of construction it embodies advanced improvements for efficient and dependable operation.



The new Falcon motor.

The United States Motors Corporation is backing the Falcon with a guarantee which is unique in the marine field. If any parts prove defective, they will not only make replacements free of charge, but will also assume transportation charges.

Elto Wins Three Foreign Races

The Royal Motor Yacht Club outboard championship of Australia was won by the Super Elto Speedster against B and C Class motors. This information is conveyed in a cable just received by the Elto Outboard Motor Company, Milwaukee, Wis.

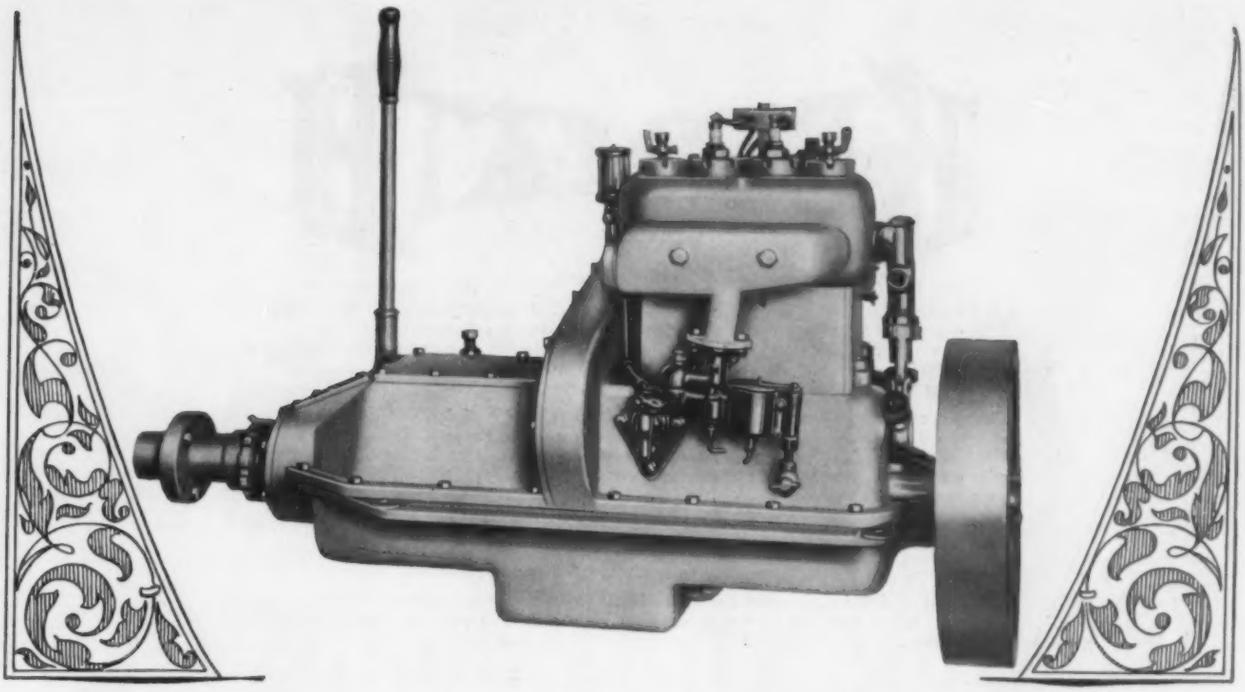
Word has also come that the Elto Speedster captured first honors in the first outboard race held in Europe this year. Inaugurating the season's outboard racing in Europe at Zaandam, Holland, a special 4-mile race formed the feature event. The race was won by a Herbst Special powered with a Super Elto Speedster.

From England comes word that in a special outboard race for women drivers, over a 3-mile course at the Welsh Harp, Hendon, on April 14th, Miss Elsie Shillan, driving an Elto Speedster, outdistanced the field by 330 yards.

A New Chart Protector

Charles C. Hutchinson and Co., of 154 State St., Boston, have developed a new chart protector that should be of use to every owner of a pleasure craft. This protector is about 20" x 30", is made of a good grade of oilcloth and has a celluloid cover.

(*Continued on page 135*)



The famous line of 2 Cylinder *Kermaths* are among the Industry's best sellers

WHEN an article leads in value and performance it leads in sales. Yachtsmen know and prefer the Kermath 4-5, 6-8, 8-10 H. P., 2 cylinder jobs as the most reliable on the market. They are referred to as the "old reliable" line of Kermaths. These motors enjoy the distinction of leadership in sales.

Think of the advanced features of these Kermath models. They have the same clutch and reverse gear as used in the larger Kermath motors. These 2 cylinder Kermaths are particularly adaptable for the small open fishing launches as well as the auxiliary power units for sailing boats up to 45 ft. Economical—Reliable—Popular—you can't go wrong on a 2 cylinder Kermath.

That means a lot. That means reputation—standing—character. These are the elements you must consider in selecting your motor.

Get the Kermath catalog. It has a wealth of information about the finest marine power plants ever built.

KERMATH

KERMATH

AFTER all a motor investment is a *big* thing. It is not like buying a package of cigarettes for if you make a mistake in cigarettes no great harm is done. But a marine motor is a lifetime investment. So it is advisable to buy carefully. Why take chances? Why experiment when you know the famous 12-16 and 20 H. P., 4 Cylinder Kermaths have an established reputation.

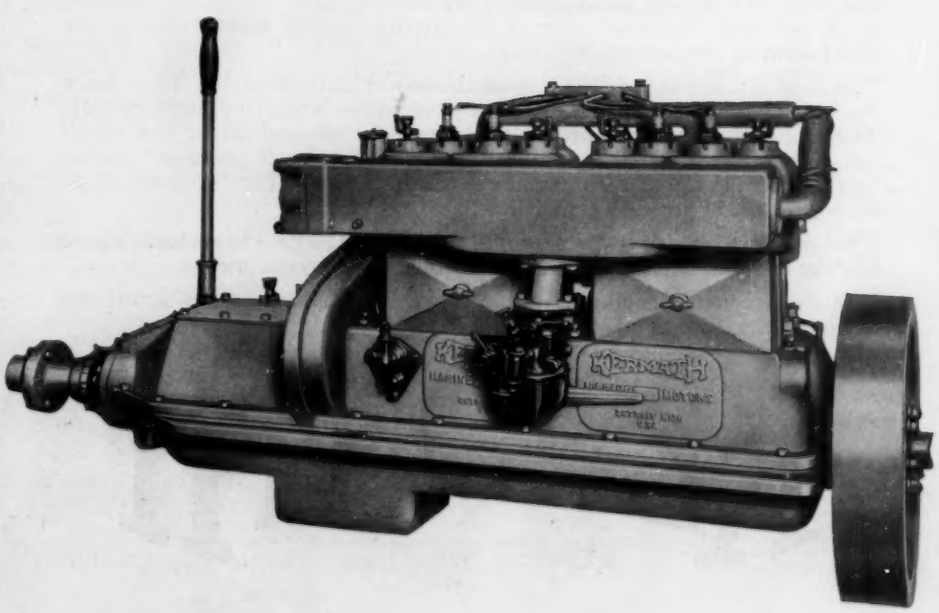
These motors—thousands of them—have been giving satisfactory service for years and years and years. In fact the paramount feature of these Kermath Fours is their established reliability and reputation. They are as stable as Liberty Bonds. So why take a chance? You would not buy a questionable security. Apply the same thing to your motor purchase.

These motors are particularly suitable for economical power and cruisers up to 30 feet, large launches, work boats, as well as auxiliary power for sailing craft.

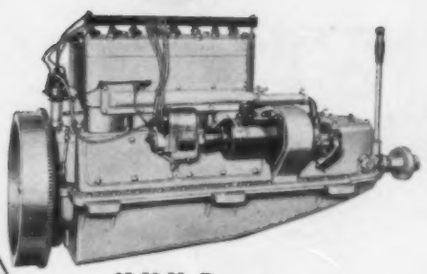
Rugged and clean cut. Smooth in operation, quiet and economical.

You will find these famous Kermath Fours used in preference to all other marine motors. Make a sound motor investment, one that will pay you large dividends in satisfaction. Try a Kermath!

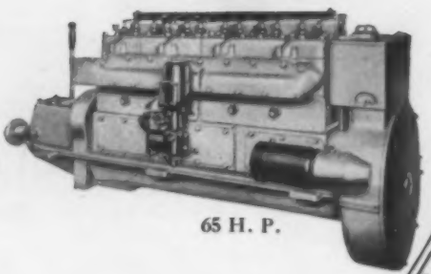
This line of *Kermath* 4 Cylinder Motors enjoys an ever increasing popularity



KERMATH



35-50 H. P.



65 H. P.

Medium Duty Motors Great Favorites Always in demand

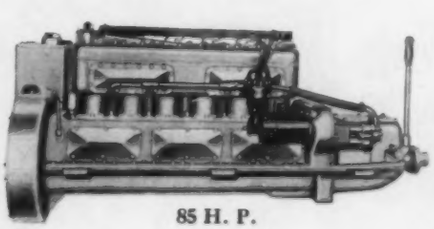
NEVER before in the whole successful Kermath history has there been such a constant demand for the 35—65—85—100 H. P., medium duty group. Designed especially for cruisers and auxiliary sailing where day in and day out dependable power—and plenty of it—is essential.

The orders for these models keep coming in in increasing quantities from all parts of the world.

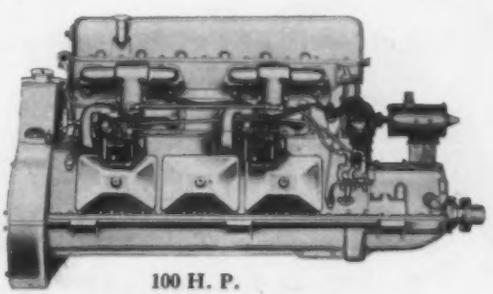
These Kermaths have many advanced features, a few of which are heavy cast iron cylinder blocks—stout five bearing statically and dynamically balanced camshafts, force feed lubrication, sturdy clutch and reverse gears.

We honestly believe these units to be the most reliable and most powerful in their price and horsepower class.

Staunch—soundly designed—modern in all refinements, these Kermaths are worth your most careful consideration. Write for the interesting Kermath catalog.

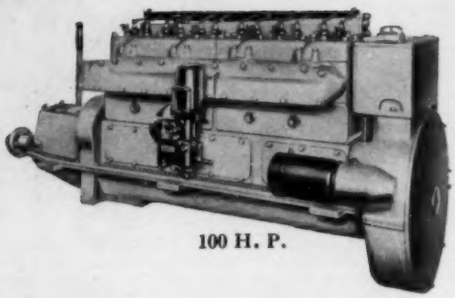


85 H. P.



100 H. P.

KERMATH



100 H. P.

America's outstanding High Speed Motors - prime favorites in all waters

NOW you come to the internationally famous line of super Kermaths. These high speed Kermaths comprise three Sizes—100—125 and 150 H. P., respectively. If you desire super speed for that magnificent mahogany runabout or fast express cruiser, you need look no further. Here is the ultra in a fine high grade power plant. Scores of prominent individual boat owners and a large majority of the foremost boat builders use these high speed Kermaths exclusively.

In the larger Kermaths the extreme smoothness and snappy acceleration is due to wonderfully fine manifolding, larger valve areas and compression ratios balanced to the service required.

Seven bearing crankshafts, extra large, provide the desired rigidity for smoothness, for vibration is almost completely eliminated. Twin carburetors—lubrication force feed.

The handsome Kermath catalog gives you a full description of all the advanced features incorporated in these advanced marine engines. A beauty to look at—a beauty to own—a beauty to operate. If you would have the utmost in high speed coupled with dependability at all times, look carefully into these high speed Kermaths—the most highly praised and most highly regarded motors ever designed.

Get the facts today. Do not decide on any motor until you have studied the full Kermath line.

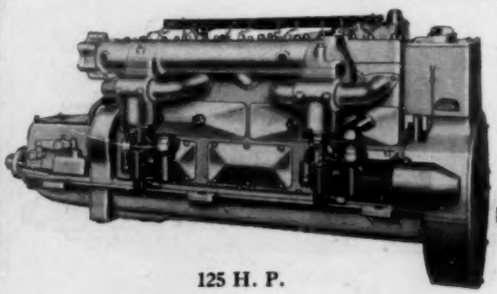
3 to 150 H.P. - $135 to $2300

KERMATH MANUFACTURING CO.

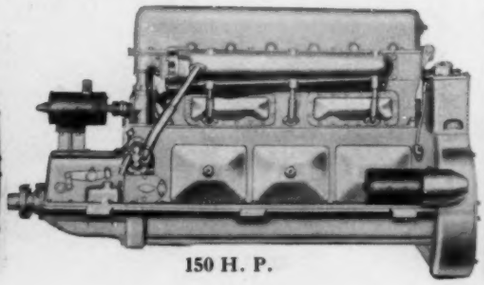
5893 Commonwealth Ave., Detroit · 90 King St. W., Toronto, Ont.

New York Display Rooms: 50 West 17th Street *Boston Display Rooms:* 1037 Commonwealth Ave.

"A Kermath Always Runs"



125 H. P.



150 H. P.

(*Continued from page 130*)

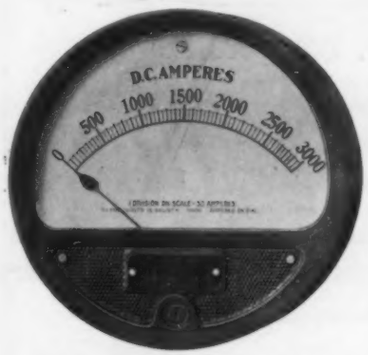
Charts are folded and placed in the protector, and thus kept clean and free from pencil marks. Ten standard sized charts can be folded and put in the chart protector, which is held securely by snap hooks. This same firm has recently published its 1928 catalogue of navigational instruments.

The Lord Electric Wind Indicator

It is now possible for yachtsmen by means of the Lord electric wind indicator to tell instantly the direction and velocity of the wind at any time.

The mechanism operates by means of a weather vane and an anemometer mounted on the roof, which are connected electrically to the indicator on the wall. Every gust of the wind is reflected in glowing lights on the brass dial of the instrument. The vane and anemometer of this simply constructed instrument have been tested by the U. S. Bureau of Standards, and adopted by the U. S. Weather Bureau.

The unit is not only practical but instructive as well, and is the only device which will show the characteristics of the wind by night as well as by day.



The new Westinghouse marine type ammeter.

Westinghouse Announces New Marine Type Instruments

A recent development by the Westinghouse Electric and Manufacturing Company is its new line of SX Marine Type ammeters and voltmeters. These instruments are designed for use on shipboard, in mines, or other locations where damp conditions may exist.

Operation is on the D'Arsonval principle, a permanent magnet and a moving coil wound on a metallic bobbin providing damping. Several special features are incorporated in these instruments, such as sapphire jewels, terminals in rear of instrument, and accuracy within one per cent of full scale. The voltmeters have a range of 150 to 750 volts, and the ammeters are available in capacities from 50 to 8,000 amperes.

West Coast Boats Use Marblehead Paint

The manufacturers of Marblehead Anti-Fouling Green bottom paint report that practically every one of the large fleet of Star boats that rendevouz in Newport Harbor, Calif., is painted with their product.

The Stearns-McKay Mfg. Co., Marblehead, Mass., have devoted over 25 years to the study of marine paints, and believe that their product has reached a point as near perfection as is possible for an anti-fouling paint.

Barbasol vs. the field!

USE BARBASOL ON ONE SIDE—ANY SHAVING SOAP ON THE OTHER

—Let your face decide

You have your shaving hobby. Maybe you've stayed with the same soap or other preparation for years. Pretty hard to get you off it.

Yet you may be missing the shaving bet of your life by not playing BARBASOL. We *know* BARBASOL is *faster, smoother, cleaner, closer.*

Why not match BARBASOL against your pick of the field? All you have to do is

Make This 3-day Test

Use any shaving soap just the way soap has to be favored — lather up, rub in, hot towel, lather again, give Soap & Co. all the breaks — but *only on one side* of your face.

Now wet down *the other side* — with hot water or cold, so long as it's wet — and spread on a film of creamy, cooling Barbasol. No brush. No lathering. No rub-in. Just shave! Like this:

1—Wash the face (and leave it wet)
2—Spread on Barbasol (but don't rub in)
3—Shave!

Do this for three successive days, and —

Let Your Face Decide

Notice how rough and harsh the soap side is — how the soapy alkali burns, and how the razor pulled and the beard fought back!

Feel how silky soft and cool the BARBASOL side is — because Barbasol is a 100% beard softener — no air bubbles — and the natural oils are left right in the skin. Your face will tell you that BARBASOL is *Faster, Smoother, Closer.*

We know the winner!

Barbasol's a great protector and relief from sunburn, wind-burn, chap.

And here's something New! Barbasol Skin Freshener, a great pick-up for the tired skin. Use it after shaving, after bathing, any time.

Let your face know Barbasol! Big tube of Barbasol 35c and 65c. Barbasol Skin Freshener 65c. All Druggists.

THE BARBASOL COMPANY
Indianapolis Indiana

Barbasol

For Modern Shaving

FAST-SPORTY SAFE!

Here's a practical 10½ ft. boat that stows away in a locker until you want it—

For Service — handy tender — carries big loads — can't scratch or mar painted surfaces — draws only 2 to 3 inches.

For Play — endless amusement for children and adults — perfectly safe — light and speedy — easy to row.

For Emergencies — inflated in 3 minutes with foot bellows — carries 6 people comfortably — will support many more — can't capsize — safe in rough water — recommended by leading authorities.

An essential part of your equipment — Ask your dealer or mail coupon below for descriptive folder F.

PNEUMATIC BOAT CORPORATION
122 Branford Pl., Newark, N. J.

Pnumaticraft

Stows away in compact bag—easily carried by hand or on running board of car.

A *real* boat—10½ ft. long—with *real boat lines!* Note raised and pointed ends—an exclusive feature of Pnumaticraft.

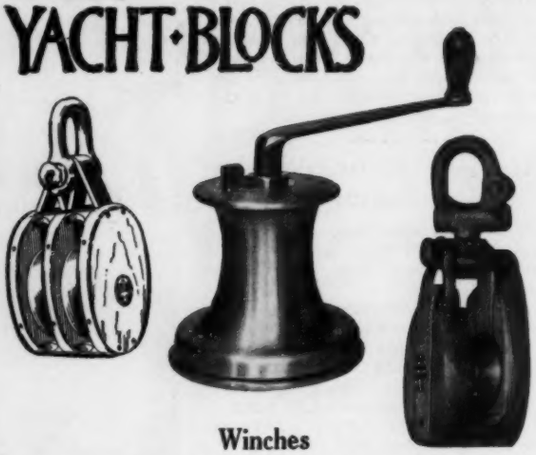
PNEUMATIC BOAT CORP.
122 Branford Pl., Newark, N. J.

Please send me, without obligation, illustrated folder "F" and prices on PNUMATICRAFT.

Name.....

Address.....

YACHT·BLOCKS



Winches

Clew Outhauls **Anchors**
Goosenecks **Slides and Track**

BRONZE TURNBUCKLES

MERRIMAN·BROS

185 Amory Street **Boston, Mass.**

New Catalog on Request

The Standard for all Marine Installations

BRUNSWICK-KROESCHELL REFRIGERATION

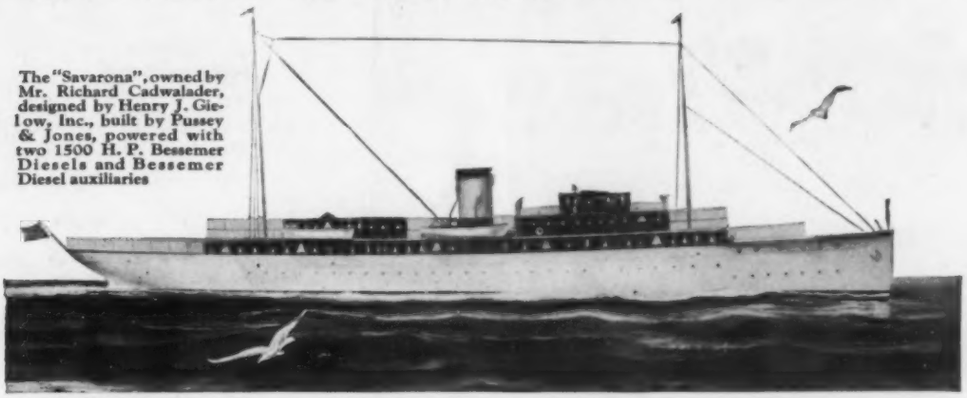
SOME RECENT YACHT INSTALLATIONS

Name	Length	Owner	Architect
Arcadia	188	Mrs. Huntington Reed Hardwick	Cox & Stevens
Athero II.	171	Jesse L. Livermore	Henry J. Gielow, Inc.
Aras	162–3	Hugh J. Chisholm	Bath Iron Works
Captiva	130–6	Payne Whitney	Gielow & Orr
Caritas	156–9	J. Percy Bartram	Cox & Stevens
Carmargo	225	Julius Fleischmann	Henry J. Gielow, Inc.
Delphine	257–8	Mrs. Hugh Dillman	Henry J. Gielow, Inc.
Faith	106–5	Walden W. Shaw	John G. Hanna
Gadfly	107–3	Frederick H. Rawson	Gielow & Orr
Goodwill	161	Keith Spalding	Henry J. Gielow, Inc.
Hardi Biaou	79–8	Dr. H. G. Lloyd	John G. Alden
Illyria	147	Cornelius Crane	Henry J. Gielow, Inc.
Josephine	140	Edmund Stevenson Burke, Jr.	Henry J. Gielow, Inc.
Oneida	201	International Film Service Co., Inc.	A. S. Chesebrough
Pawnee	160	Harry Payne Bingham	Cox & Stevens
R. Dream	103	R. C. Vilas	Henry C. Grebe
Robador	160–10	Robert Law, Jr.	Cox & Stevens
Savarona	185	Mrs. Richard W. Cadwalader, Jr.	Cox & Stevens
Sialia	223–7	Henry Ford	Gielow & Orr
Speejacks	127	Albert Y. Gowen	William H. Hand, Jr.
Starling	126–6	George F. Tyler	John G. Alden
Sumar	160	David C. Whitney	Henry J. Gielow, Inc.
Tropic ex Gracewin	88–8	W. P. Bonright	Henry J. Gielow, Inc.
Warrior	248	Harrison Williams	Cox & Stevens
Whileaway	177–1	Harry Payne Whitney	Cox & Stevens

BRUNSWICK-KROESCHELL COMPANY
Refrigerating & Ice Making Machinery
NEW BRUNSWICK, N.J. - CHICAGO, ILL.
BRANCHES, AGENCIES AND SERVICE IN PRINCIPAL CITIES

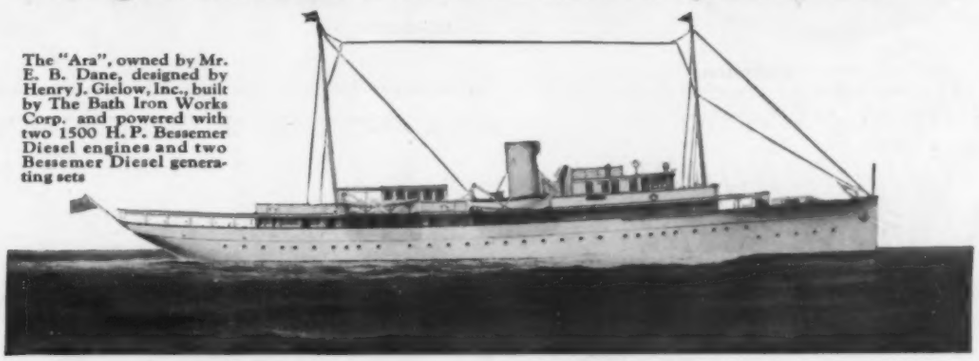
"The Proof of the Pudding"

The "Savarona", leviathan of yachts, has returned after a most successful winter cruise, during which the performance of her Bessemer Diesel power plant won the praise of both owner and engineer.



The "Savarona", owned by Mr. Richard Cadwalader, designed by Henry J. Gielow, Inc., built by Pusey & Jones, powered with two 1500 H. P. Bessemer Diesels and Bessemer Diesel auxiliaries

Now two more 1500 H. P. Bessemer straight-eights are being installed in the luxurious new yacht "Ara"—



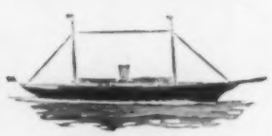
The "Ara", owned by Mr. E. B. Dane, designed by Henry J. Gielow, Inc., built by The Bath Iron Works Corp. and powered with two 1500 H. P. Bessemer Diesel engines and two Bessemer Diesel generating sets

And throughout the shipyards of the U. S. this spring many more fine yachts are being Bessemer Diesel powered.

THE BESSEMER GAS ENGINE COMPANY
22 Lincoln Avenue :: :: Grove City, Pa., U. S. A.

Special Yacht Representative:
EARL H. CROFT, INC., 25 West 43rd Street, New York, N. Y.

"WALEDA"



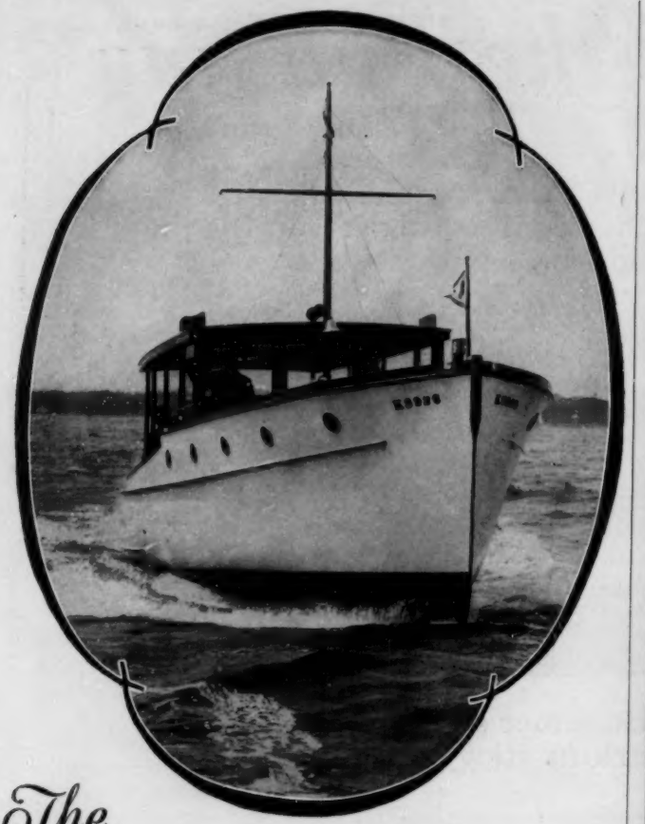
"CAMARGO"

"MEMORY III"

"ILLYRIA"

BESSEMER

DIESEL ENGINES



The Riding Grace of a Thoroughbred— The Comforts of a Home—

NOT only do Dawn Cruisers strike you as being particularly well built and beautifully designed . . . but their fine performance and sea-going qualities will win the confidence of any yachtsman. And the farther you cruise in a Dawn Boat, the more your confidence will grow. We urge you to visit our plant—see how carefully each Dawn Cruiser is built for its owner. Inquiries invited.

DAWN BOAT CORPORATION
Clason Point , , New York City
Phone - - Westchester 7000

The Dawn "38" is powered with the six cylinder 65 H. P. Kermath. Priced at $8,875

The Dawn "45" is powered with twin six cylinder 65 H. P. Kermaths. Priced at $14,600

AN INTERESTING SERVICE

When you attach a motor to your boat, you must conform to government regulations affecting its equipment and operation.

We have a pamphlet on this subject which we will send you upon request. Our four generations of experience is at your service.

Builders and Dealers: Our new No. 20 Catalog, showing our complete up-to-date stock of marine hardware and equipment is now ready. If you have not received your copy, write us.

W. & J. TIEBOUT
118 Chambers St.
NEW YORK

The Fastest Type of Boat Afloat

The Barnegat Bay, Class E sloop, Inland Lake Scow type—
Designed and built by Jones & La Borde Co.

Length over all 28 feet, Beam 6 feet 6 inches, Draft with boards up 5 inches. Sail area 285 square feet exclusive of spinnaker.

For prices and delivery write

JONES & LA BORDE CO.
OSHKOSH, WISCONSIN

EUELLAN II

Capt. Eugene E. O'Donnell, owner

Sails from Wamsutta Yacht Duck

The smallest yacht that ever won the Chowder Race at Marblehead

Capt. O'Donnell — the owner of Euellan II — is a real enthusiast on the subject of Wamsutta Yacht Duck. He considers it "the best sail cloth obtainable."

This is what he says:

"The EUELLAN II won the Championship in the Triangle Class in 1927 and also won in the Chowder Race. This race, as you know, is taken part in by all the boats at Marblehead, from the largest to the smallest. There were sixty-seven boats in the race that day, all on the handicap basis, and she was the smallest boat ever to have won this annual event.

"I attribute her success in no small part to the fact that she was fitted with a suit of sails made from Wamsutta Yacht Duck, which I have always found most satisfactory in every detail, and I believe this duck for yacht sails is the best sail cloth obtainable."

In the cabin Wamsutta Percale sheets and pillow cases add real luxury to the cruise.

HOWE & BAINBRIDGE, *Distributors*
220 COMMERCIAL STREET, BOSTON, MASS.

Made in All Weights for Boats of Every Size

WAMSUTTA YACHT DUCK

Made in America for American Yachts

WAMSUTTA MILLS, New Bedford, Mass., *Founded 1846.*—RIDLEY WATTS & CO., *Selling Agents,* 44 Leonard St., N.Y.

In Conjunction with the

PACIFIC SOUTHWEST EXPOSITION

* * *

America's — GREATEST MOTOR BOATING *and* YACHTING REGATTA

LONG BEACH, CALIF.

(Home port of "Miss California")

AUGUST 4*th* TO 12*th*

AHOY! The Pacific Southwest of America, mecca of yachtsmen, invites you to the 8th Annual Regatta of the Southern California Yachting Association, sponsored by the thirteen boating and yachting clubs of Southern California.

This mammoth program, which has been approved by all the national yachting and power-boat associations, includes races for starboats, R-class boats, 6-meter boats, 45's, sloops, yawls and schooners of all classes. The power-boat division includes races for hydroplanes of the 151, 510 and 725 classes, gold cup boats, all classes of outboards and all types of runabouts and power cruisers.

Championship boats of all classes have been entered. The regatta committee is now arranging an International Rudder Trophy challenge.

For further information and entry blanks, communicate with the Regatta Committee, Chamber of Commerce Bldg., Long Beach, California.

See the Big

PACIFIC SOUTHWEST EXPOSITION

This mammoth International event is the greatest Exposition held on the Pacific Coast since the San Diego Panama-Pacific International. It will portray the commercial and cultural advancement of the Pacific Area on a 60-acre site in the heart of the Long Beach-Los Angeles harbor district. More than twenty foreign nations are participating. The Pacific Southwest Exposition is Federally recognized and has the endorsement of the eleven Western states. Of particular interest to boatsmen will be the Division of Yachting and Motorboating at the Exposition. The dates of this brilliant attraction are July 27th to August 20th inclusive.

KELVIN & WILFRID O. WHITE CO.

38 Water Street, New York City ★ 112 State Street, Boston

COMPASSES Should Be Correct

Whether you race to *Bermuda* or *Santander* or simply cruise along our own coast.

We can do this work for you and guarantee the work — or perhaps you might like one of our $15.00 *Compass Correctors* and you can do it yourself.

Note: We still have quite a few octants and sextants, $20.00 to $25.00 suitable for the amateur cruiser, or for class work. *Send for circulars.*

The ELDRIDGE Books of Harbor Charts — New York to Boston, $20.00; Boston to Bar Harbor, $15.00; will be ready May 1st. Limited Editions. *Place your orders early to insure delivery.*

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We specialize in thin planking
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We are selling this stock to such representative concerns as:

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consistent winners

JOHNSON'S record of important victories is sensational. For three consecutive years Johnson stamina and Johnson speed have outclassed other entrants in an overwhelming majority of all the outboard races sanctioned by the principal Motor Boat Associations. The final reports of racing during the past Florida season show that there alone Johnson placed first in 31 out of 32 Class B starts—and first in 28 out of 32 Class C starts!

Continuing the ever increasing succession of victories, Johnson made a clean sweep of all outboard events in two post-season races at Miami and Tampa. In the Shrine Outboard Motor Races at Miami on May 2nd Johnson Big Twins won first, second and third places in Class C—*Ariana,* driven by H. M. Frazer of Auburndale placing first; *Baby Hi-Jacker,* second, and *Mary-L,* third. In the Class B event *My Gawd* driven by Jim David took first place and *Nero,* third. Both were powered by Johnson Standard Twins.

At the Tampa races on April 19th, Johnson took everything in sight, winning first, second and third places both in the Amateur and Free-for-All Class C and Class B events!

In this day of fleeting records when new marks are established before the last one can be put into print, just remember this—no one even begins to approach Johnson's record as the *consistent* winner.

Write for complete information on Johnson Motors. If you are interested we will gladly send a copy of our new Boat Manual showing our advanced ideas on design for family and racing boats free.

Johnson Motors are sold on the free trial plan—with convenient payments if you desire

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World's lightest weight outboard—26 lbs. *Price $115.*

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Class B Motor, developing 11 h. p. maximum. Weight 61 lbs. *Price $165.*

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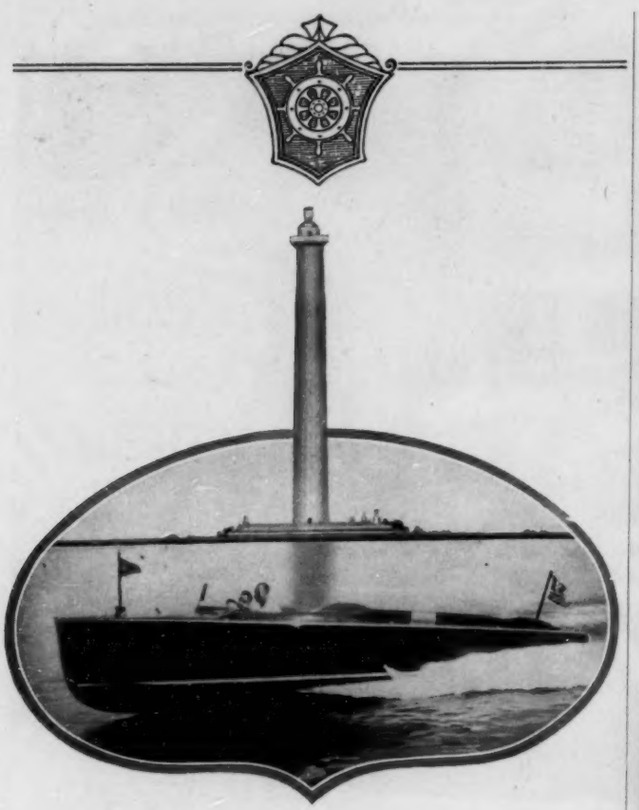

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The Sport trend is toward the water and riding the crest of this ever-increasing wave of enthusiasm is the Dart Runabout, which is available in 22½ ft. — 26-ft. and 30-ft. sizes. The 26-ft. and the 30-ft. are built in both the open and closed type. Each boat produced is given sufficient individual attention to produce a masterpiece, with the result that every Dart boat exemplifies quality thruout. Write for complete details.

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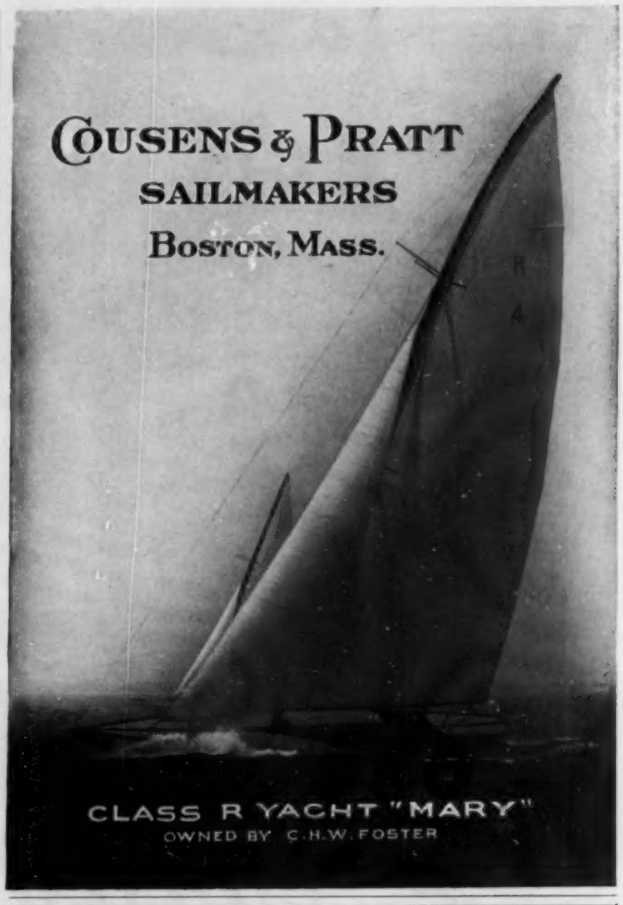

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150 H.P. KERMATH
Speed 28-30 m.p.h.
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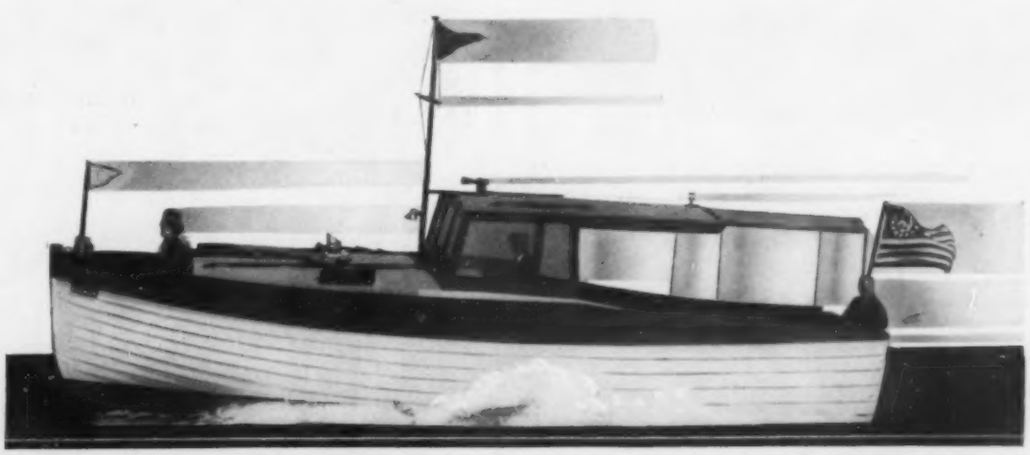

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Single step hydro, 8' by 48" beam, weight 45 pounds, self-color finish. Wood flooring over triangular section alloy ribs. Collapsible fin controlled from operator's seat. Price $98.00 F.O.B. Buffalo, N. Y. Crating $12.00.

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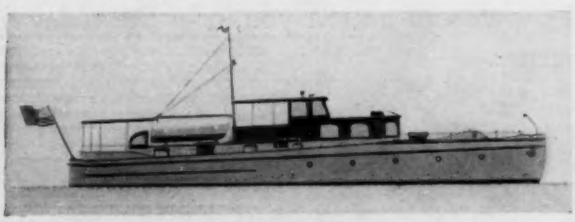

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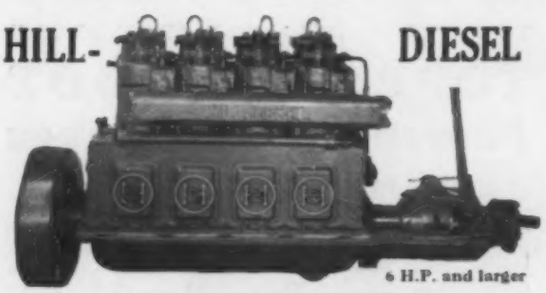

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For Yachts and Small Boats

The speeds, weights, dimensions, powers and prices of these new 5 x 7 models meet the requirements. WRITE US

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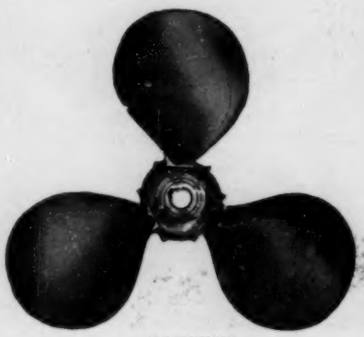
remove the drag of solid wheels when the boat is under sail

Owners of auxiliary type boats should learn of the advantages of these propellers



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Positive in operation. No hollow shafts or levers. No springs or cams. Guaranteed to drive ahead, feather and reverse without jamming. Will function perfectly in all positions.

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Space occupied: 22¼" wide' 23" front to back. Supply, 1"; discharge, 2".

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THE FAYBOW "MIDDY" —a finely designed and beautifully finished craft — was created for boatsmen who demand in an outboard motor boat the same smart lines and careful finish which heretofore have been obtainable only in high-priced runabouts.

Equipped with any suitable size good make outboard motor, the "Middy" will develop a speed of 25 miles an hour easily, and can be turned about in a boat's length. As a runabout, yacht tender or junior speed boat, it has no superior. An exceptionally seaworthy and dry craft.

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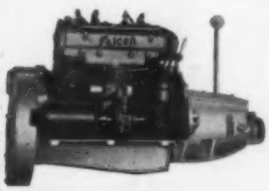
FAYBOW Continental

MARINE ENGINES AND POWER BOATS

Designed Especially for



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HERE is a light, compact, absolutely vibrationless engine which is designed to give you the kind of auxiliary power you have always wanted.

Full pressure oiling system — oversize, counter-balanced crankshaft — measures less than 35" including reverse gear — and weighs less and costs less than any other 15 h.p. engine for equipment furnished.

The "Falcon" is also ideal for tenders, runabouts and with reduction gear for small cruisers.

Also manufacturers of the most complete line of highly perfected, marine-type electric plants — from 350 watts to 75 K. W. Also a special series using the "Falcon" engine — from 1½ K. W. to 5 K. W.

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Powered by Universal MOTOR CO. Six

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Husky, roomy, 10-ft. beam, 6-ft. 1½ in. head room in cockpit—galley, cabin, lockers, cupboards, space for storing supplies and equipment for a party of six. Powered by the new Universal Six — a dependable, high-powered, compact motor with 7-bearing crankshaft and camshaft — the "28" has performance features to please the most exacting.

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These cylinders of fuel are obtainable at frequent ports on the Atlantic and Gulf Coasts and on the Great Lakes.

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A Summer Resort of Your Own!

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ON her recent trip to Cuba *chow* was prepared on a Protane stove. The problems of weight, space — *safety* on an airship are similar to, but more acute than those on shipboard.

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Speed: All the thrills of a runabout

Comfort: All the accommodations of a cruiser

Safety: All the sea-going qualities of a lifeboat

Control: All the ease of driving your car

Upkeep and operating cost: One-third that of an automobile of equal price

Designed by: Eldredge-McInnis of Boston, whose boats are famous for their sea-going qualities

Two 6 ft. 2 in. spring berths, hanging space for clothes, lockers under bunks

Separately partitioned toilet and lavatory

Galley with two-burner Alco Yacht Stove

Dish shelves, sink drain board

Ice box, closet for pans

All Government equipment necessary

Built by: The Portland Yacht Yard, Inc., noted for the honest workmanship they build into their boats.
Distributed Exclusively by: Wilbur H. Young & Co., Inc., who after twenty-one years of experience in building and selling boats, suggested this design.

Length: 26 ft., *beam:* 8 ft. 6 ins., *draft:* 30 ins.

Hull painted in attractive color combinations. Trim, mahogany. Forward cockpit seating four. Auto-type driver's seat for three. Rear cockpit seat for five. All fitted with leatherette cushions in attractive colors. Full automobile control. Electric starter, generator and lights. Light, cool cabin with 5 ft. 9 in. headroom.

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Larger powers, giving speeds up to 32 miles per hour on special order. F.O.B. plant. Can be equipped with two extra berths, wind shield, combination flying awning and cockpit cover or with standing top to order.

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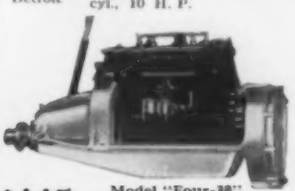
$116 F. O. B. Detroit — Five H. P. 4 cycle. Smoothest running Single. Is also made in two cyl., 10 H. P.



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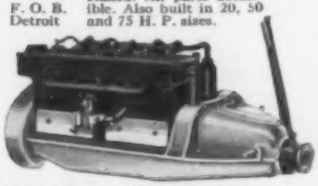

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WE show here just three examples of the great values Gray gives. The complete Gray line consists of:

Singles—Doubles
Four Powerful "Fours"
Four Smooth "Sixes"
and a Remarkable New
100 H. P. "Eight"

Power ranges from 5 to 100 H. P. So no matter what size craft you wish to power, or whether your requirement is medium heavy duty or high speed, you will find just what you want in the good Gray line at a real saving over what you have expected to pay.

All Gray 4, 6 and 8 cylinder engines have latest tried and proven features of design.

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Gray Marine Motor Co.
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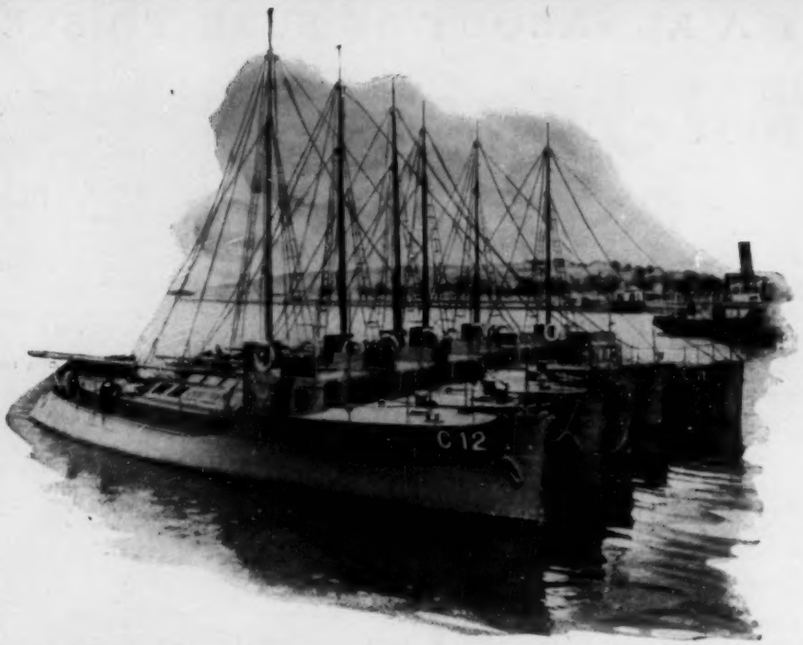
BUILT BY PIONEERS — ENGINEERS — LEADERS



Smuggler chasers operated by the Spanish Government. Fifteen similar boats are fitted with 160 H.P. four-cylinder BOLINDER oil engines, developing a speed of 13 knots.

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Our engines are finding a ready field wherever absolute reliability and trustworthiness under the most adverse conditions is essential.

They are safe, dependable, light weight, occupy little space and are ideal power for yachts where clean and smokeless as well as trouble-free operation is desirable.

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WITH a Pioneer Magnetic Compass, it is easy to steer a direct course back to ship or shore.

The Pioneer Magnetic Compass is our regular aviation model. It is accurate, dependable, and easy to install.

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ANTI-FOULING GREEN

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Manning's Marine Anti-Fouling Red — a Dashing Bright Red Bottom for fine yachts — there is nothing like it for color, protection or finish.

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Manning's Marine Semi-Flat White for the topsides. Has a satin-smooth finish AND a fresh coat each year will keep the surface like new without scraping.

Send for Samples

HENRY J. WINDE CO.
Charlestown, Mass. for Edwin M. Hill

Herbst Wins Again

IN ALBANY TO NEW YORK RACES—CLASS B

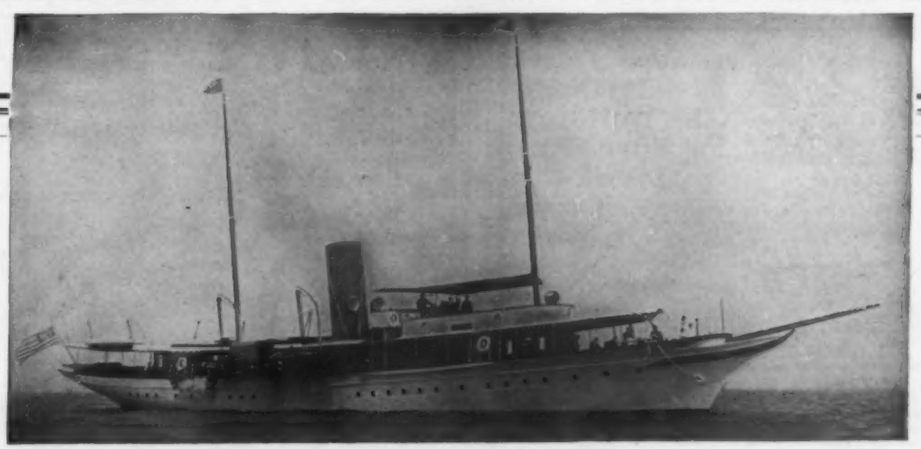
On April 14th, 1928, the HERBST BOAT, *Miss Atlantic*, driven by J. E. Wilkinson, made the best time of all Class B entries. Same boat and same driver repeated the performance on the following Sunday.

The YACHTING *Class B Trophy won by Miss Atlantic*

Miss Atlantic's time for the 133 miles was 5 hrs. 19 mins. 32 secs. Average speed was 24.90 m.p.h. Weather conditions forced many boats to give up but the Herbst Boat never faltered.

Watch the Herbst Boats this season. They will pile up honors for their owners. Your order for a Herbst Boat must reach us now for prompt delivery.

HERBST BOAT WORKS WILMINGTON, NORTH CAROLINA



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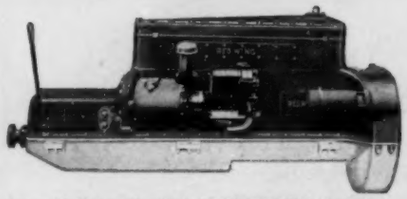

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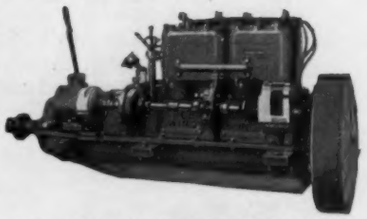

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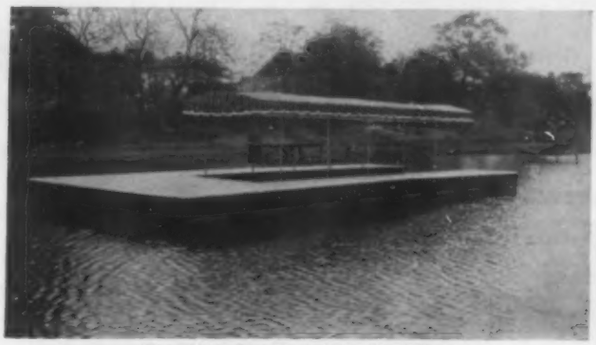

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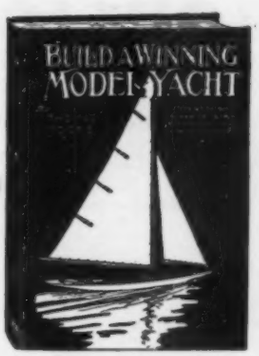

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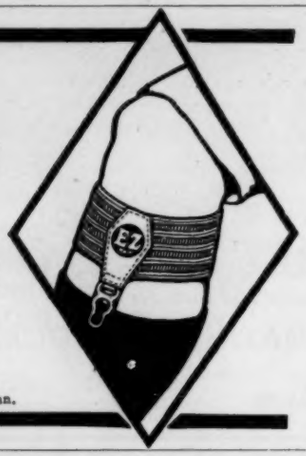

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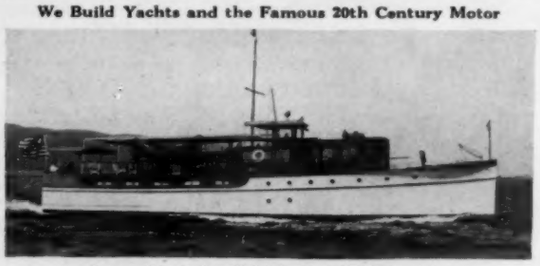

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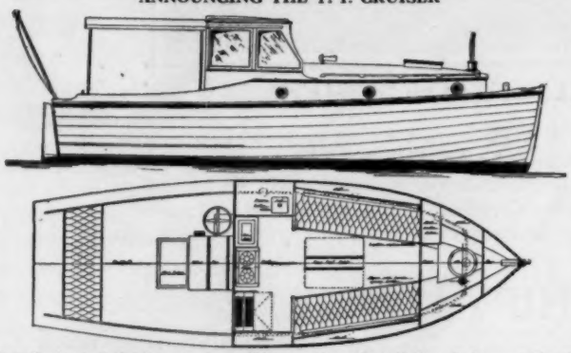

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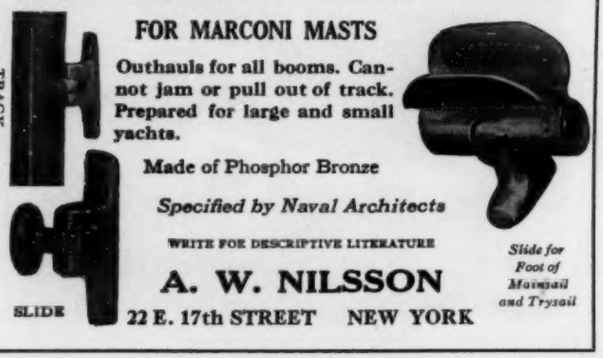

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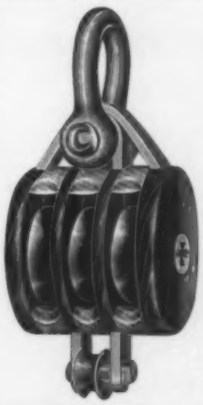

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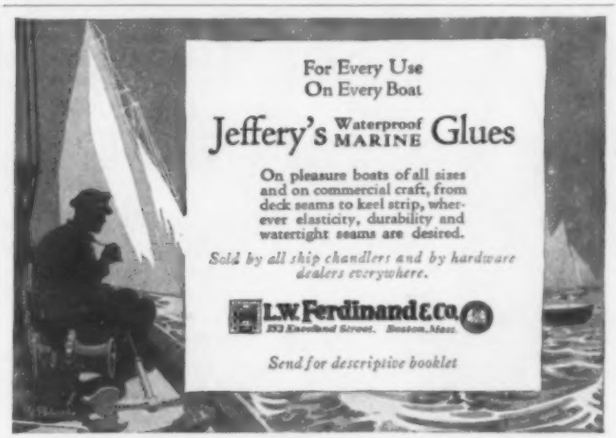
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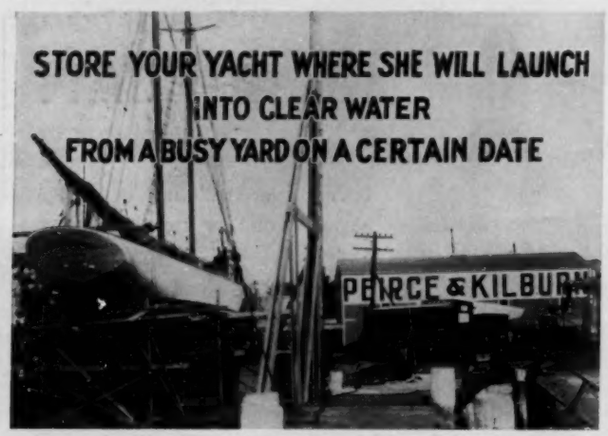

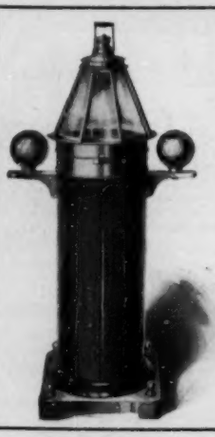

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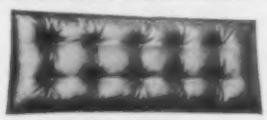

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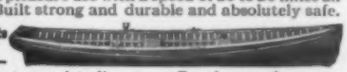

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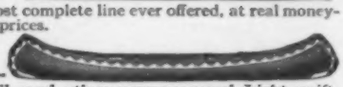

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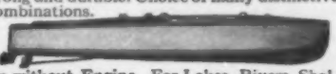

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ADVERTISERS' INDEX

A

Addison-Leslie Co. 102
Alden, John G. 18–19–30–112
Alloy Boat Co. 144
American Car & Foundry Co. 95–119

B

Banfield Sea Skiff Works, Inc. 143
Barbasol Co. 135
Barry, R. E. 34
Beckman Co., C. E. 152
Benson, T. B. F. 34
Bessemer Gas Engine Co. 109–137
Bolinders Co., Inc. 150
Bowes, Thomas D. 34
Brennig's Own 106
Brinkerhoff Electric Co. 163
Brooks Boat Co. 152
Bruns Kimball & Co. 32–163
Brunswick-Kroeschell Co. 136
Bryant & Berry Propeller Co. 157
Buda Co. 124
Burgess & Morgan, Ltd. 21
Busch-Sulzer Bros.—Diesel Engine Co. 100–101
Burrows, George R., Inc. ..... 4th Cover

C

Cape Cod Shipbldg. Corp. 157
Carlisle & Finch Co. 154
Carpenter, George B., & Co. 153
Chris-Craft 104–105
Columbian Bronze Corp. 159
Consolidated Shipbldg. Corp. 8
C-O-Two Fire Equipment Co. 118
Cousens & Pratt 142
Cox & Stevens 17–111
Crocker, S. S., Jr. 32–34
Crowninshield & Burbank 34
Cummins Eng. Co., Inc. 128
Cunningham, Alan 110

D

Daniels, C. R., Inc. 161–163
Dart Runabouts 142
Davis, H. Heyworth 15
Dawn Boat Corp. 138
Detroit Graphite Co. 125
Dobson B. T. 34
Dodge Boat Works, H. E. 9
Dunphy Boat Co. 157

E

Edson Mfg. Co. 158
Elco Works ..... 2nd Cover
Eldredge-McInnis, Inc. 26–28–34
Elto Outboard Motor Co. 2–3
Erico-Kainer Co. 116
Evinrude Motor Co. 97
E Z Garter 154

F

Fairhaven Iron Foundry Co. 158
Fay & Bowen Engine Co. 147
Ferdinand, L. W., & Co. 159
Ford Motor Co. 6
Forhan Co. 130
Free Bottom Craft 158
Furness-Bermuda Line 163

G

Gardner, Wm., & Co. 12–13–31
Gielow, Henry J., Inc. 10–28–107
Gray Marine Motor Co. 149
Gray & Prior Machine Co. 159
Grebe & Co., H. C. 24–145

H

Hacker Boat Co. 166
Haggas, E. Lockwood 34
Hall-Scott Motor Car Co. 119
Haynes-Griffin, Inc. 117
Herreshoff, L. Francis 34
Hill-Diesel Engine Co. 145
Hill, Edwin M. 150
Hoogendyk, F. V. R. 144
Hotel Rockmere 122
Howard & Munro 35–129
Humphreys, Frederic P. 27–35–115
Hutchinson, Chas. C. 157
Hyde Windlass Co. 146

I

Indiana Quartered Oak Co. 140
Indian Lake Boat Co. 142

J

Jennings, H. H., Co. 20
Johnson & Son, Geo. T. 152
Johnson Motor Co. 141
Jones, Frank Bowne 31
Jones & LaBorde 138

K

Kelvin & Wilfrid O. White 140
Kermath Mfg. Co. 131–132–133–134
Kidde & Co., Inc., Walter 98
Kohler Co. 108
Kuhls, H. B. Fred 165
Kyle, S. Clyde 95–119
Kyle, T. A., Co. 152

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Yachting

L

Larsen, Louis J. 161
Lee Co., U. G. 160
Liggett & Son Co., A. G. 121
Long Beach Regatta 140
Lord, Charles E. 126
Luders Marine Construction Co. 154
Lynam & Co., C. 32

M

McMillan's Sons 159
Malleable Iron Fittings Co. 155
Mathis Yacht Bldg. Co. 103
Matthews Co., The 5
Maybach Motor Co. 33
Merriman Bros. 136
Milton Boat Yards 152
Moore Co., Harry 163
Mosse, Inc. 122
Mower, Charles D. 35
Mullen, Morris B. 35
Munroe, Gordon 35

N

National Carbon Co. 163
National Marine Lamp Co. 142
Nedwidek, C. A. 31
New Jersey Paint Works 149
New York Cordage Co. 161–163
New York Yacht, Launch & Engine Co. 154
Nilsson, A. W. 156
Nock, F. S. 35
Noma Electric Corp. 99

O

Oberdorfer, M. L., Brass Co. 120
Old Town Canoe Co. 158
Outboard Motor Headquarters 145
Ovington Bros. 1

P

Palmer Bros. Engines, Inc. 7
Peirce & Kilburn, Inc. 160
Penn Yan Boat Co. 154
Perrine, J. H. 156
Pioneer Instrument Co. 150
Pneumatic Boat Corp. 136
Presto Primer & Reducing Valve Corp. 161

R

Ratsey & Lapthorn 144
Red Wing Motor Co. 152
Rhodes, P. L. 35
Rice Bros. Corp. 160
Richardson Boat Co. 32–148
Rigg & Co., Linton 22–23
Ritchie & Sons, E. S. 160

S

Sands & Son Co., A. B. 146
Sanford, Harry W. 14
Schock, Edson B. 35
Scripps Motor Co. 123
Sea Sled Corporation 39
Slop Chest 159
Smith & Sons Boat Co., Chris 104–105
Smith & Co., Edward 4
Sparkman, D. H. 11–25
Stamford Foundry Co. 148
Standard Oil Co. 113
Staples, Johnson & Co. 155
Stearns-McKay Mfg. Co. 157
Sterling Engine Co. ..... 3rd Cover
Stokes, Frederick A. 153

T

Tams & King 29
Taylor, Thos. P. 154
Thompson Bros. Boat Mfg. Co. 163
Thousand Island Marine Const. Co. 156
Tiebout, W. & J. 138
Toppan Boat & Engine Co. 146

U

Universal Motor Co. 147
United States Motor Co. 147
United Crescent Dry Cleaning Corp. 114

V

Valentine & Co. 93

W

Walray Corp. 148
Walsh-Bugbee Co., Inc. 153
Wamsutta Mills 139
Watts, J. Murray 35
Webb & Son Co., Elisha 154
Wells, John H. 24
Wells, Theo. D. 151
Westinghouse Electric & Mfg. Co. 96
Wheeler Shipyard 155
Wilcox, Crittenden & Co. 127
Wilson & Silsby, Inc. 157
Winslow, Ralph E. 35
Winton Engine Co. 41
Wood, Gar, Inc. 36

Y

Yachtmen's Service 16
Yacht Exchange 15
Young, Wilbur H., Inc. 149

Z

Zeiss, Carl, Inc. 126

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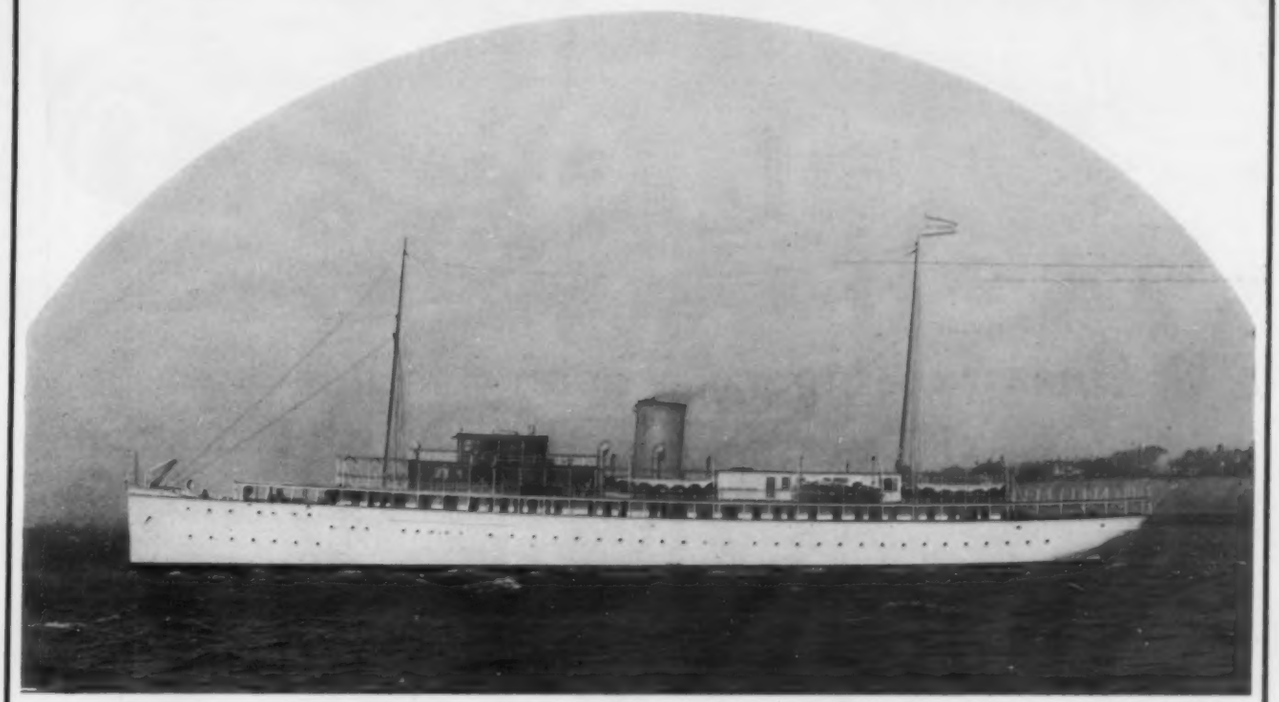

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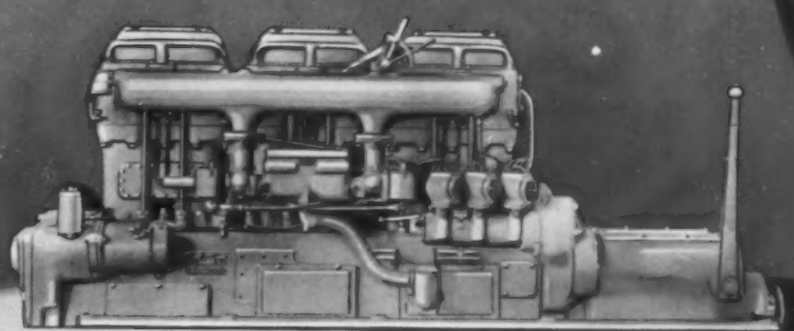

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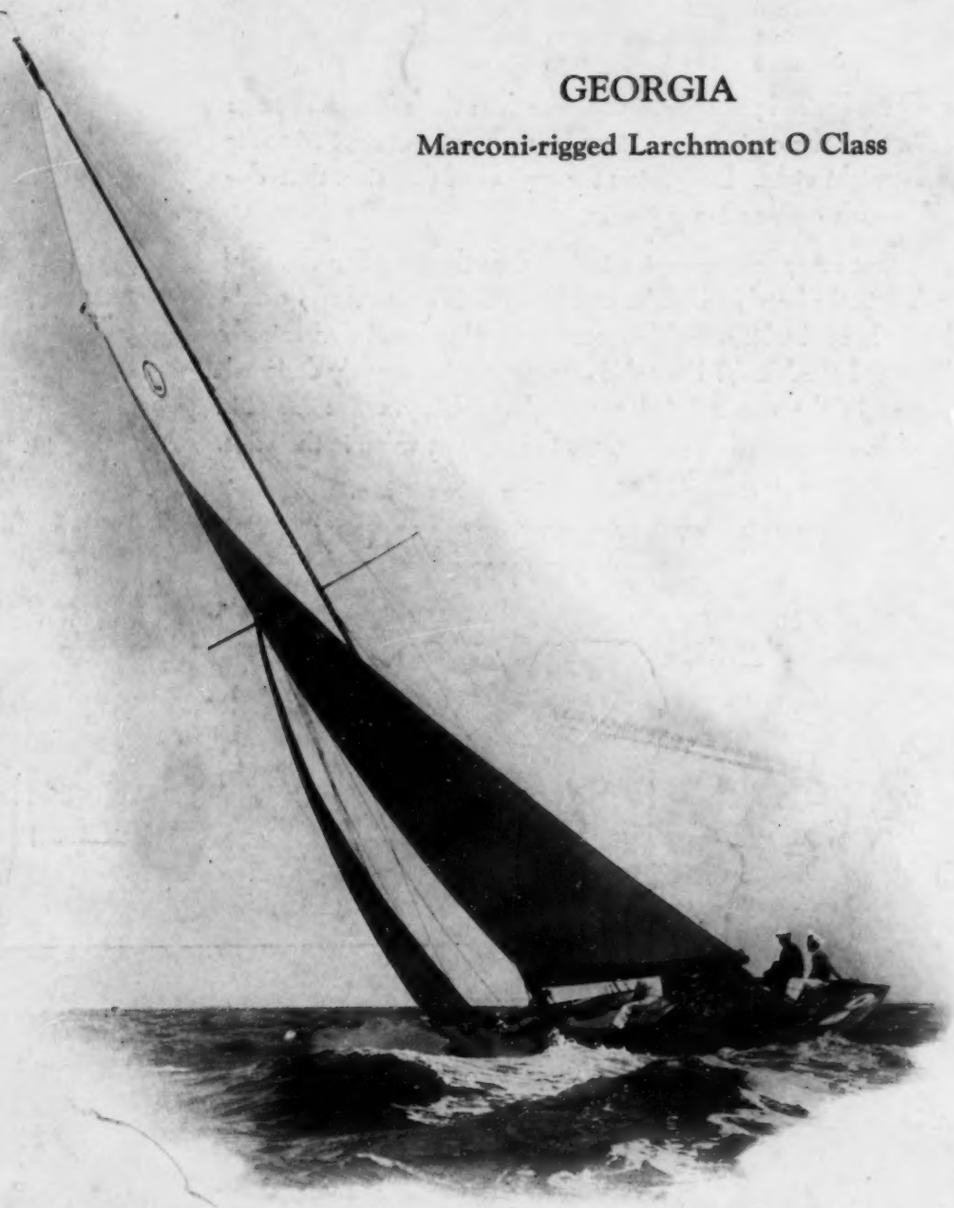

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